	Scope for Provision of Professional Engineering and Project Management Services to Eskom Transmission Division	ESKOM TRANSMISSION DIVISION
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TRANSMISSION DIVISION

PROVISION OF PROFESSIONAL ENGINEERING AND PROJECT MANAGEMENT SERVICES TO TRANSMISSION DIVISION

SCOPE OF SERVICES

Status : New Scope Document

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A. Abstract






This document forms part of the New Engineering Contract, Professional Services Contract 3rd Edition.

The document defines the Scope of services required from the *Consultant* to perform a variety of services for the Transmission Engineering and Project Management functions for Eskom Transmission Division.

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(ii) Document Approval

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This document shall be retained in accordance with Eskom Records Management Procedure.

CONTENTS

1.	ABBREVIATIONS	4
2.	DEFINITIONS	7
3.	APPLICABLE DOCUMENTS	8
4.	EXECUTIVE OVERVIEW	9
5.	SCOPE OF SERVICES	10
6.	SECONDARY PLANT ENGINEERING AND TECHNOLOGY MANAGEMENT	11
7.	PROJECT MANAGEMENT DISCIPLINES/AREAS COVERED	32
8.	MANAGEMENT OF WORK DONE BY TASK ORDER.....	69
9.	CONSTRAINTS ON HOW THE CONSULTANT PROVIDES THE SERVICES	72
10.	DELIVERABLES	74
11.	RECEIVABLES	75
12.	INVOICING AND PAYMENT	76
13.	WORKING ON THE EMPLOYER'S PROPERTY.....	77
14.	PROCUREMENT.....	78
15.	OTHER CONSTRAINTS	80
16.	THINGS PROVIDED BY THE EMPLOYER.....	81
17.	ADDENDUM A: TOOLS AND SOFTWARE REQUIREMENTS.....	82
18.	ADDENDUM B: TASK ORDER TEMPLATE	87
19.	ADDENDUM C: TRAVEL AND SUBSISTENCE EXPENSES, RATES, TOOLS AND SOFTWARE	91
20.	ADDENDUM D: INVOICING	96
21.	DEVELOPMENT TEAM	97
22.	THE DOCUMENT WAS SEEN AND ACCEPTED BY:	98

1. ABBREVIATIONS

This list contains the abbreviations used in this document.

Abbreviation	Description
AAAC	All Aluminium Alloy Conductor
AC	Alternating Current
ACCC	Aluminium Conductor Composite Core
ACSR	Aluminium Conductor Steel Reinforced
ACSS	Aluminium Conductor Steel Supported
ADSS	All Dielectric Self-supporting
AIS	Air Insulated Switchgear
ATP	Accelerated Training Program
BIL	Basic Insulation Level
BEng	Bachelor of Engineering
BSc	Bachelor of Science
B. Tech	Bachelor of Technology
BU	Business Unit
CAD	Computer-aided Design
CCTV	Closed-circuit Television
CEO	Chief Executive Officer
CFO	Critical Flashover
CDEGS	Current Distribution, Electromagnetic Fields, Grounding and Soil Structure Analysis
CoE	Centre of Excellence
DC	Direct Current
ECSA	Engineering Council of South Africa
EHV	Extra High voltage
EMF	Electric and Magnetic Field
EID	Improvised Explosive Devices
EIA	Environmental Impact Assessment
EMS	Environmental Management Systems
EPMS	Eskom Project Management System
ESDD	Equivalent Salt Deposit Density
FACTS	Flexible AC Transmission System
FMECA	Failure Modes, Effects and Criticality Analysis
FIDIC	Fédération Internationale des Ingénieurs - Conseils
GCC	Government Certificate of Competency
GIT	Graduate in Training
GIS	Gas Insulated Switch gear

Abbreviation	Description
HR	Human Resources
HV	High Voltage
HVDC	High voltage Direct Current
IEC	International Electrotechnical Commission
IPP	Independent Power Producer
ISO	International Organization for Standardization
IT	Information Technology
IWBS	Integrated Work Breakdown Structure
KM	Knowledge Management
KPI	Key Performance Indicators
LES	Line Engineering Services
LV	Low Voltage
MV	Medium Voltage
NDA	Non-Disclosure Agreement
NEC3 - ECC	New Engineering Contract 3 - Engineering and Construction Contract
NRS	National Regulatory Services
NSDD	Non-soluble Deposit Density
OPGW	Optical Ground Wire
PC	Personal Computer
PCM	Process Control Manual
PDD	Project Development Department
PM	Project Manager
PMBok	Project Management Body of Knowledge
P&ID	Process and Instrumentation Diagrams
PLSCADD	Power Line Systems Computer aided design and drafting
PLCM	Project Life Cycle Model
PDRA	Project Development Readiness Assessments
PSCAD	Power Systems Computer Aided Design
PTM&C	Protection, Telecommunications, Metering, and Commissioning
QITP	Quality Inspection & Test Plan
QRA	Quantitative Risk Analysis
RAM	Reliability, Availability, Maintainability
RBI	Risk Based Inspection
RF	Radio frequency
SABS	South Africa Bureau of Standards

Abbreviation	Description
SAP	Systems, Applications and Products
SC	Supply Contract
SCADA	Supervisory Control and Data Acquisition
SCOPs	Supply Chain Operations procedures
SHE	Health, Safety and Environmental
SHEQ	Health, Safety, Environmental and Quality
SLA	Service Level Agreement
SVL	Sheath Voltage Limiters
TRV	Transient Recovery Voltage
TPD	Transmission Projects Delivery
WBS	Work Breakdown Structure

2. DEFINITIONS

Definition	Description
Design Authority	Design Authority - When Eskom acts as the Design Authority on a project/package/plant/system/asset, the reviewer(s) shall review the design documentation to ensure that: the design satisfies the design requirements; all relevant COE design standards, procedures and guidelines have been adhered to; the design is suitable and correct (calculations, philosophy, functionality, etc.); best COE practices were applied; the design is integrated by identifying all interfaces with other packages/plant systems/assets and ensuring that these interfaces are catered for.
<i>Consultant</i>	Refers to the professional <i>Consultant</i> team appointed to perform the engineering and project management works required for the project in terms of the NEC3 Professional Services Contract.
Eskom Plant Engineering	Refers to the Eskom Engineering team who will perform the design review and provide technical assistance for the work performed by the appointed <i>Consultant</i> .
The Client	The end user will be Eskom who will be represented by Transmission Projects Delivery throughout the duration of the Project.
Contractor	Service provider contracted to provide a specific service to Eskom.
<i>Employer</i>	Eskom, or Eskom Transmission Engineering or delegated <i>Employer's</i> representative.
Expert Consultant	In respect of a private consulting practice in engineering and/or project management, means a top practitioner whose expertise and relevant experience is nationally or internationally recognised and who provides advice at a level of specialisation where such advice is recognised as that of an expert.
Senior Consultant	In respect of a private consulting practice in engineering and/or project management, means all salaried professional staff with adequate expertise and relevant experience performing work of an engineering and/or project management nature and who carry the direct technical responsibility for one or more specific activities related to a project.
Junior Consultant	In respect of a private consulting practice in engineering and/or project management, means all other salaried technical staff with adequate expertise and relevant experience performing work of an engineering and/or project management nature with direction and control provided by a senior or expert <i>Consultant</i> .

3. APPLICABLE DOCUMENTS

Applicable documents form an integral part of service delivery associated with project management in Eskom, the below documents will be provided upon request and remains the copyright property of Eskom holdings and required Non-Disclosure Agreements (NDA) will be applicable.

3.1 STANDARDS, GUIDELINES, HANDBOOKS AND REGULATIONS

1. ISO 9001 Quality Management Systems
2. ISO14001: Environmental Management System
3. ISO45001: Occupational Health & Safety Management System
4. OHSA - Occupational Health and Safety Act, 85 of 1993 and Regulations
5. 240-53113685 Design Review Procedure
6. 240-53665024 Engineering Quality Manual
7. 240-53114002 Engineering Change Management Procedure
8. 32-1034 Eskom Procurement and Supply Chain Management Procedure
9. Public Finance Management Act
- 10.32-727 Safety, Health, Environment and Quality (SHEQ) Policy/Procedure
- 11.240-42366126: Process Control Manual for Project Management (Conceptual)
- 12.240-99011698: Process Control Manual for Integrated Project Controls Management (Conceptual)
- 13.240-96851726: Process Control Manual for Enterprise Risk and Resilience Management (Conceptual)
- 14.240-42385239: Process Control Manual for Contracts Management (Conceptual)
- 15.240-45461812: Process Control Manual for Construction Management (Conceptual)
- 16.240-45461809: Process Control Manual for Commissioning (Conceptual)
- 17.32-727: SHEQ Policy
- 18.240-155373927: Eskom's COVID-19 Health and Safety Policy Statement
- 19.240- 62196227: Eskom Life Saving Rules, Directive
- 20.240-62946386: Vehicle and Driver Safety Management Procedure
- 21.240-84733329: Medical Surveillance Procedure:
- 22.32-477: Safety Health and Environment (SHE) Training and Development Procedure
- 23.32-37: Substance Abuse
- 24.240-120054284: Personal Protection Equipment Standard, 240-120054284
- 25.32-95: Occupational Health and Safety Incident Management Procedure
- 26.240-131838225: Occupational Health and Safety Incident Management Definitions and Parameters
- 27.TPDMAN-SP-84: Project specific Health and Safety (H&S) Specification

4. EXECUTIVE OVERVIEW

4.1 Introduction

This document outlines the Scope of services required from the *Consultant* for the provision of Specialised Engineering and Project Management Services to Eskom Transmission Division.

The Scope of Work document is necessary to stipulate the variety of services required from the appointed *Consultant*.

4.2 Employer's Objective

The *Employer's* objective is to appoint engineering and project management services provider that will benefit the Eskom Transmission entire business by:

- Ensuring quicker appointment of *Consultant* to address the needs of the business.
- Ensuring greater governance in the appointment of *Consultant*.
- Ensuring *Consultant* appointed have the capacity, skills, experience and qualifications to perform the required services.
- Ensuring greater control of spend on the contract.

4.3 Background

An external engineering and project management services provider is required to augment Transmission Engineering, Project Management and Site Support resources when the need arises, through the provision of specialised engineering, and project management services. The scope of services encompasses the engineering and project management disciplines in areas which Eskom lack sufficient specialised skills and capabilities. The service provider will work with Transmission resources to support the business when Eskom does not have adequate internal resources with the required skills and competencies.

The *Employer* will from time to time depending on services required appoint the service provider (as and when required). Resources Requisitions will be issued to the service provider with defined scopes and deliverables in accordance with the approved contracting strategy. Once CVs are received, resources will be evaluated on their experience and expertise and if successful be appointed for the services through the issuing of a Task Order.

For each of the services required, a short description of the service has been included below as listed in the indicative job profiles where more details are also provided. Note that the budget estimate or the task order request form and signed budget estimate or task order will confirm the project, service and duration required as the scope provided is an estimate only. Services to be provided on an as-and-when required basis.

5. SCOPE OF SERVICES

The *Consultant* shall provide a variety of specialised engineering and project management services to Eskom Transmission which will include:

- Engineering design and review
- Engineering Processes
- Project Management services and
- Site Support Services.

The skills and competencies of the resources provided by the service provider will be from Junior, Senior to Expert levels (see indicative job profiles) for the engineering disciplines, project management and site services listed on the description of services and requirements.

6. SECONDARY PLANT ENGINEERING AND TECHNOLOGY MANAGEMENT

The provision of engineering services to be contracted on a time and materials basis to contribute to Eskom's outputs in terms of the disciplines and outputs listed below.

The provision of specified / turnkey deliverables to contribute to Eskom's outputs in terms of the disciplines and outputs listed below.

6.1 PROTECTION, TELECOMMUNICATIONS, METERING, TELECONTROL, DC, PHYSICAL PERIMETER SECURITY AND PHYSICAL ACCESS CONTROL SYSTEMS APPLICATION DESIGN / ENGINEERING

Application design refers to the engineering activities associated with the design of power network infrastructure, utilising standard developed products which are typically available of Supply Contracts that Eskom has established with third party vendors. Engineering activities and design outputs include inter-alia:

- Design drawings (to-build and as-built),
- Telecontrol datapoint definitions,
- Substation / IED IEC 61850 CID, SCD, ICD database file design / definition / creation
- Substation IP network design
- Interlocking rule design / definition / creation
- Protection settings design / definition / creation
- DC system sizing and design
- DC and AC board reticulation design, and
- Control Room Layout in terms of panel placement, emergency evacuation requirements, lightning, access and overhead racking load calculations
- Telecommunication specific Voice, Videoconference, IP router, Radio and Fibre Optic Network designs
- CCTV, Volumetric Alarm, Perimeter Intrusion detection and Electric fence designs

Engineering processes and deliverables are to comply with statutory regulations and Eskom Transmission governance, philosophies, standards and accepted practices, and are to be delivered to Eskom in a format and on media to be specified with each task order. All designs are to be approved by a competent ECSA registered professional.

6.2 PROTECTION, TELECOMMUNICATIONS, METERING, TELECONTROL, DC, PHYSICAL PERIMETER SECURITY, PHYSICAL ACCESS CONTROL SYSTEMS AND ASSOCIATED CYBER SECURITY TECHNOLOGY MANAGEMENT / ENGINEERING

Technology management refers to engineering activities to establish technology direction / goals, planning to achieve these goals, concept, basic and detailed designs for the establishment of new technologies, sourcing strategies and mechanisms, new technology change management, support activities to sustain and achieve best value from technologies and end of life planning. Engineering activities and design outputs include inter-alia:

- Compilation of user requirements, philosophies, specifications and / or technical input to commercial documentation against which tenders can be issued for the design, development, manufacture, testing and subsequent supply.
- NEC ECC, FIDIC, BESPOKE and SC project and contract management.
- Technology change management including the development of, Settings, Maintenance and Operating Documentation.
- Development / Population of Configuration Management Systems and PC based Product Configuration Tools.
- Compilation of Engineering Instructions and / or associated product configurations for changes to the installed design base.
- Development and / or presentation of training courses associated with the introduction of new technology, maintenance and operating thereof.
- Cybersecurity risk, penetration, and vulnerability assessment as well as architecture standards and frameworks development and / or design reviews
- Incident investigations
- Specialised studies / analysis relating to existing infrastructure or to facilitate the creation of new infra-structure

Engineering processes and deliverables are to comply with statutory regulations and Eskom Transmission governance, philosophies, standards, and accepted practices, and are to be delivered to Eskom in a format and on media to be specified with each task order. All designs are to be approved by a competent ECSA registered professional.

6.3 POWERLINE ENGINEERING

The design scope is covered in the sections below. There may be other specialised studies not mentioned here that will be needed at times for specialised and complex projects. All designs will follow the Eskom governance process with respect to the formal line design process.

6.3.1 ELECTRICAL

Phase conductor selection:

- Conductor type considerations including ACSR, AAAC, ACCC, ACSS
- Life cycle costing
- Electromagnetic field studies
- Corona studies
- Thermal rating studies
- Current carrying capability
- Templating temperature studies
- Voltage regulation
- Power transfer capability
- Voltage unbalance and phasing requirements studies
- Ferranti studies
- Jumper selection
- Other specialised studies (electric fence and pipeline coupling studies)

Insulator selection:

- Pollution (ESDD, NSDD) measurements and analysis
- Dry arcing distance and creepage studies
- Insulator material selection
- Electrical withstand levels (BIL, CFO etc.)
- Mechanical strength considerations

Earthing design:

- Tower footing resistance measurements
- Soil resistivity measurements
- Counterpoise designs
- Other specialised studies

Line performance studies:

- Lightning performance analysis
- Fire and bird related fault analysis
- Performance improvement methods

Groundwire selection

- Fault current distribution
- Influence of groundwire on protection requirements
- Choice of groundwire conductor (AAAC, ACSR, steel)
- Instances where groundwire is to be insulated

Telecommunications designs

- Choice of technology (OPGW, ADSS, repeaters, etc.)
- Jointing and termination
- Specialised studies

6.3.2 STRUCTURAL

- Tower selection
- Tower loading analysis (wind and weight spans)
- Telecommunication tower and related infrastructure design, analysis, detailing, testing if needed, and prototyping.
- Tower design

6.3.3 HARDWARE SELECTION

- Selection and design of relevant hardware for the selected tower, conductor and insulator combination.
- Development of outline drawings for selected hardware
- Drawings for new hardware designs

6.3.4 FOUNDATIONS

- Geotechnical studies
- Foundation designs
- Soil nominations and analysis of nominations

6.3.5 LINE PROFILING

- Tower spotting and line optimisation on PLSCADD
- Creation and review of method 1 and method 4 seedfiles

- Preliminary and detailed visual inspections (ground and aerial)

6.3.6 ENVIRONMENTAL CONSIDERATION

- Bird routes (migrating birds)
- Maximum wind speeds
- Airstrips
- Anti-climbing
- Electromagnetic interference (maximum allowed E- and B-fields)
- Electromagnetic interference (fences, water pipes, Telkom lines etc)
- Lightning
- Prevalent pollution levels
- General routing of the line and land use

6.3.7 CORROSION PROTECTION

- Steel poles
- Hardware
- Phase conductor
- Shieldwire
- Reference to relevant specifications

6.3.8 SPECIALISED STUDIES

- Corona measurements and analysis
- Any design related impacts emanating from landowner, environmental and community issues
- Line impedance measurements
- Uprating and upgrading of existing lines
- Electromagnetic field measurements and analysis
- Tower design and analysis studies
- Tower detailing (Draughting)
- Coupling studies (fences – electrified and non-electrified, railway lines, other powerlines, pipelines etc.)
- Cathodic protection studies (pipelines and railway lines)
- Insulation co-ordination (switching, temporary overvoltages, lightning overvoltages)
- Geotechnical studies (undermining, landfill etc.)
- Line impedance measurements
- Surveying (including digitizing and spatial information analysis)
- Corrosion protection analysis (internal and external)

- Studies using drones and other advanced unmanned technologies for inspections and walkdowns and other design related studies in preparation for construction.
- Engineering quality assurance at construction sites
- Other specialised studies

6.4 SUBSTATION ENGINEERING

6.4.1 SUBSTATION ENGINEERING: ELECTRICAL

- i. Produce electrical designs (AIS/GIS/HVDC) on Transmission projects for Concept, Definition & Execution Phases on varying projects:**
 - New Substations
 - Network integration from Power Stations or IPP projects
 - Network strengthening
 - Expansion projects
 - Refurbishment projects
- ii. Technical specifications reviews**
 - Application and adherence to Eskom Design Standards, Specifications, best practises, NRS standards, SABS and IEC standards, Occupation Health and Safety (OHS) act, Construction regulations, etc.
- iii. Knowledge and application of different Technologies used for design**
 - AIS
 - GIS
 - HVDC
 - Cable
 - FACTS
- iv. Knowledge and application of the different busbar philosophies**
 - Single Bus
 - Double Bus
 - Breaker and a Half etc.
- v. Produced CAD based design drawings (Microstation)**
- vi. Participation in Project life cycle technical hold points such as:**
 - Substation design reviews,
 - PDRA (Project Development Readiness Assessments) and
 - Stakeholder and site meetings

vii. Technical Tender Evaluations**viii. Quality**

- Approval of: QITP's (Stringing, Earthing and Erection)
- Review of Safe Work Procedures and Method Statements
- Provision of constructions support during Execution

ix. Specialized studies

- Earthing studies in CDEGS
- Insulation co-ordination
- Lightning protection studies
- Harmonic studies
- NER optimization studies
- Floodlights and security lighting studies
- Life cycle costing
- Heating/ventilation and air conditioning

x. Design verification (Field measurements)

- Corona and Radio Interference
- Electric field measurements
- Magnetic field measurements
- Audible noise measurements
- Soil Resistivity Measurements
- Grid Resistance Measurements
- Earthing Continuity Measurements
- Lighting (lux) measurements

xi. Site Assurance/Investigations/Inspections during construction**xii. Post-construction**

- Design verifications (Designed vs As-built)
- Drawing mark-ups

xiii. Audits

- Earthing systems
 - Grid Resistance Measurements
 - Earthing Continuity Measurements

- Lighting measurements
- Insulators
- Hardware
- Conductors

xiv. DRAUGHTING (CAD)

- Provide Engineering Drafting for Substation Engineering:
- Produce project design drawings (Electrical, Civil and Structural Layouts)
- Compliance with SANS and Eskom Draughting Standards
- Proficient knowledge in Projectwise and Microstation
- Ability to work in 2D and 3D with minimal supervision
- Create drawing master files
- Update marked up drawings
- Check in/out drawings using Eskom approved configuration management systems
- Print drawings as per requirements
- Prepare hard copies of drawings for issue
- All CAD drawings to be in Microstation V8i format

6.4.2 HV CABLE SYSTEMS

6.4.2.1 Electrical Design

- HV cable selection and specification (Conductor, Sheath, outer layer, Insulation, etc.).
- Performance and Operability requirements.
- Cable system design in accordance with 240-56030640 (Including: Ampacity calculations and FEM simulations, Earthing and bonding standing voltage and sheath circulating current calculations, step and touch voltage calculations and simulations, transient studies, TOV studies, SVL and Surge arrester selection, capacitive switching, mechanical, civil, etc.)
- Cable system design verification in accordance with 240-56030640 (For: Ampacity calculations and FEM simulations, Earthing and bonding standing voltage and sheath circulating current calculations, step and touch voltage calculations and simulations, transient studies, TOV studies, SVL and Surge arrester selection, capacitive switching, mechanical, civil, etc.)
- Ampacity calculations, derating calculations (including compensating for circulating currents in the cable sheath and outer later), and Thermal Finite Element modelling (where applicable) for HV Cable systems.
- Ampacity calculations, derating calculations (including compensating for induction), and Thermal Finite Element modelling (where applicable) for HV Cable system earthing.

- Fault current distribution along HV cable route.
- Bonding and earthing of the HV cable sheath and outer layer.
- Transposing of the HV cable.
- Insulation coordination.
- HV Cable system accessory design and selection.
- Calculations and Selection of Sheath Voltage Limiters (SVLs).
- Transient state and Steady state calculations of Sheath induced voltages, Sheath induced currents, Outer layer induced voltages and Outer layer induced currents.
- Simulation and calculation of Touch voltages and Step Voltages, from source substation and along HV Cable system route up to including the load substation, on above ground level and below ground level equipment.
- Electromagnetic and Electrostatic effects and interference into and from HV Cable systems – Where the cable crosses or runs parallel and in close proximity to Transmission lines, Distribution lines, water pipes, railway (active or inactive), or other live / dead conductors (Example: Hardwired Telecommunication), it shall be required to demonstrate that adequate measures have been taken to limit the effects of electromagnetic and electrostatic induction in all conductive services (not only Eskom services) and the installation is safe for all.
- Ensuring EMF (E-Fields and B-Fields) is safe for the public and *Employer's* staff working in close proximity to live HV equipment or systems.
- HV Cable systems design.
- Construction and related activities.
- Marking and labelling.
- Availability of Spares.
- Inspection and Testing.
- Safety.
- Crossings and running parallel to other existing or planned services (Transmission or Distribution cables and lines, national roads, dwellings, etc.).
- Lightning flash density.
- Impact on existing installations.
- Reference(s) to relevant Eskom, National and International standards, specifications, guidelines, procedures and best practises.
- Protection Telecommunication fibre and Distributed Temperature fibre design including but not limited to, route selection, installation and maintenance considerations, testing, specifying Distributed Temperature sensing equipment, etc.
- HV cable Circuit and System configuration for normal, road crossing, river crossings and tunnel designs.

- Termination of HV Cable systems at Non-Eskom Distribution sites. (Example: Eskom Transmission or other Customer).
- Termination of HV Cable systems onto Outdoor structure or Indoor Gas Insulated Switchgear.
- Oil filled HV cable Hydraulic pressure designs and calculations.
- Decommissioning of various types, sizes, and insulation of HV cable and accessories.
- Related Design (Standard selection and designs of: Steel Structures, Civil Foundations [and types], etc.)
- Risk Assessment and Mitigation Strategy (All-inclusive and complete.)
- Engineering of a practical and safe Sequence of Construction Events, with minimal impact to key performance indicators.
- Security and Protection for HV cable and auxiliary equipment (Security and Protection method selection; Power cable security and protection measures for installation; cable and bonding lead conductor alternatives; anchoring of cables; culverts or (build on-site or pre-cast) wall selection; Secured Manhole design, etc.)
- Design Compliance (to Environmental Impact Studies, Safety, Health and Environmental and Quality requirements, Environmental law, Transport laws, etc.)
- Compliance to Eskom Standards, Specifications, best practises, NRS standards, SABS and IEC standards, Occupation Health and Safety (OHS) act, Construction regulations, etc.)

6.4.2.2 Maintenance Requirements

- Route design and Access to the HV Cable system along its route, joint bays, and termination points. Route selection must be done in agreement with Eskom stakeholders, external stakeholders, Authorities, third parties, Interested and Affected parties and applicable legislation and standards.
- Ensuring the HV Cable system is easily maintainable.

6.4.2.3 Determine Construction Requirements

The *Consultant* should plan the scope requirements for all below construction activities:

- Preliminaries and General specification and determination.
- Electrical and Installation designs and procedures for HV Cable systems and all auxiliary equipment, complete.
- Tools and equipment to excavate / trench with minimal impact on environment.
- Tools and equipment to perform road crossings through directional drilling.
- Tools and equipment to perform river crossings through pipe jacking or directional drilling.

- Installation / Casting of pre-cast culverts, culvert slabs, precast walls, build on-site walls, foundations, etc. and applicable standards, specifications, guidelines, construction procedures and best practises.
- Reinstatement and applicable standards, specifications, guidelines, construction procedures and best practises.
- Tools, Tests and method(s) for compacting.
- Tools, Tests and method(s) for measurement of thermal resistivity of soil.
- Risk analysis (e.g. High-water table, theft, close proximity to live equipment, etc.) and compliance to the Construction regulations.
- Guidelines in handling, transportation, storage and installation of HV cables, HV cable joints, HV cable terminations and HV Cable system accessories.
- Compliance to Manufacturer's instructions.
- Type and Routine tests at factory.
- On-site and commissioning tests.
- Construction of HV cable in close proximity to other live / dead services. (Example [existing or planned]: HV cable feeders, HV lines, Telecommunication, water, etc.)
- Decommissioning of various types, sizes and insulation of HV cable and accessories.
- Reference to (Eskom and National) standards, specifications, guidelines, procedures and best practises.
- Compliance to SHE specification, Quality requirements, Construction Regulation, OHS act requirements, Environmental management documents and legislation, bylaws, requirements from the local Authority, other service providers and third parties, etc.
- Checking, correction and completion of As-builds, Checklists and Test certificates.

6.4.2.4 Execution / Constructability Plans

- Sequence of Events for the construction of the Substation work within a substation, taking into consideration network constraints, plant and operating constraints, safety, practicality, etc.
- Temporary arrangements (Example: by-passes and temporary connections, if applicable).
- Construction in close proximity and / or parallel to other services.
- Extension and/or connection of earthing systems connected to live systems.
- Construction Risk assessment of work to be done.

6.4.3 SUBSTATION ENGINEERING: CIVIL AND STRUCTURAL

- **Provision of Substation Engineering:**

Civil designs for project development on transmission schemes associated with the network integration of power from Power Stations, IPP projects, network strengthening, expansion schemes and refurbishment projects

- Site Plan/Terrace
 - Cut & Fill
 - Application of the geotechnical report
 - Drainage
 - Foundation
 - Steel Works (Structural)
 - Concrete Works (Foundations, Roofs, Plinths and Trenches)
 - Embankments
 - Infrastructure tunnel designs
 - Passive and Active Fire Protection
 - Construction Regulations
 - Architectural design
 - Roads (Site access roads and terrace roads)
 - Fencing
 - Buildings e.g. Control Room, Switch Rooms, Access Control Building, Cladded Stores, Workshops, Consumable Stores etc.
 - Substation Security
-
- **Substation design reviews**
 - AIS designs (Indoor/Outdoor)
 - GIS designs (Indoor/Outdoor)
 - HV Designs
 - MV Designs
 - HVDC scheme designs
-
- **Technical specifications reviews**
 - **Technical Tender Evaluations**
 - **Quality: Approval of: QITP's, Safe Work Procedures and Method Statements**
 - **Civil Investigations and Studies**
 - Civil designs.

- Structural designs
- Training
- **Specialized studies**
 - Structural analysis and design
 - Concrete design
 - Life cycle costing
 - Internal Arc pressure and other pressure related calculations for buildings
 - Compaction design
 - Road and river crossing designs
 - HV, MV and LV tunnel design
- **Site Assurance/Investigations/Inspections during construction**
- **Post-construction design verifications (as-designed vs as-built)**
- **Post-construction design drawing mark-ups**
- **Audits**
 - Structures
 - Foundations
- **Quantity surveying services**
- **Construction Regulations**
- **Development of RAM**
- **Hydrological Studies**

6.5 PDE DESIGN DRAUGHTING (MICROSTATION)

Provide Engineering Drafting (Substations: Electrical and Civil, PTM&C, LES)

- Create drawing master files
- Produce project design drawings (Electrical, Secondary plant and Civil)
- Update marked up drawings
- Check in/out drawings using Eskom approved configuration management systems
- Print drawings as per requirements
- Prepare hard copies of drawings for issue
- All soft copies to be in Micro station V8i format

6.6 INDICATIVE ENGINEERING JOB PROFILES

Construction expert	<p>Qualifications Civil / line construction expert Qualifications (minimum): GCC plant or mines Professional Registration: Professional registration with ECSA as a ticket engineer</p> <p>Experience and Skills Set: Extensive experience in the civil / line construction area. All legal and technical knowledge required minimum 20 years' experience Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Corona cage expert	<p>Qualifications Line design engineers (Electrical/) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in the design of major transmission substations (132kV to 765kV) and Power Station HV Yards - minimum 4 years' experience Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Draftsman	<p>Qualifications Draftsman Qualifications (minimum): (Drafting diploma) Professional Registration: Professional registration as a draftsman.</p> <p>Experience and Skills Set: min 4 years drafting in civil</p>
Drafting	<p>Qualifications Draftsman Qualifications (minimum): (Drafting diploma) Professional Registration: Professional registration as a draftsman.</p> <p>Experience and Skills Set: Minimum 4 years drafting in civil Extensive experience in the design of major transmission substations (132kV to 765kV) and Power Station HV Yards - minimum 4 years' experience Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Drafting	<p>Qualifications (minimum): National Certificate in Drafting/Drawing Office (N3) or equivalent Membership of Professional Bodies: Preference will be given to <i>Consultants</i> who are registered members with the South African Institute of Draughting.</p>

	<p>Experience and Skills Set Experience in drafting of substation drawings (civil/electrical/structural/architectural) - minimum experience of 5 years Experience in using CAD tool, preferably, Bentley Microstation Knowledge of substation electrical, civil, structural or architectural drafting standards and practices Ability to read and understand marked-up drawings Ability to work as part of a design team.</p>
Designer (Applications)	<p>Secondary plant (Protection, Telecommunication and Metering) design engineer Qualifications & Experience (minimum): National Higher Diploma (T4) - Six (6) years post qualification experience or (M Dip Tech/B Tech/M Tech in Electrical Engineering – Three (3) years post qualification. Professional Registration with ECSA as a professional engineering technologist Set: Extensive experience in Transmission secondary plant system design (132kV to 765kV) Knowledge of secondary plant design standards and practices. Presentation skills Ability to work in a team</p>
Designer (Civil)	<p>Substation design engineers (Electrical/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical or Civil Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist Experience and Skills Set: Extensive experience in the design of major transmission substations (132kV to 765kV) and Power Station HV Yards - minimum 4 years' experience Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Designer (Electrical)	<p>Substation design engineers (Electrical/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical or Civil Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist Experience and Skills Set: Extensive experience in the design of major transmission substations (132kV to 765kV) and Power Station HV Yards - minimum 4 years' experience Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>

Earthing and EMF specialist	<p>Qualifications Line design engineers (Electrical) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in earthing studies and (electric and magnetic field studies for major transmission lines up to 765kV)– minimum 10 - 20 years' experience Knowledge of line design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Electrical designer	<p>Qualifications Line design engineers (Electrical) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in the design of major transmission lines up to 765 kV level - 4 – 10 years' experience Conductor, groundwire and performance studies, unbalance and feranti Knowledge of transmission line design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Engineer	<p>Qualifications Line design engineers (Mechanical/Electrical/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Mechanical /Electrical or Civil Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: General transmission line design/ construction experience minimum 4 years' experience Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Foundation Design	<p>Qualifications Line design engineers (/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Civil Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in the design of foundations for transmission lines up to 765kV) – 4 - 10 years' experience Knowledge of foundation/civil design standards and practices. Technical report writing skills Presentation skills</p>

	Ability to work in a team
HVDC specialist	<p>Qualifications Line design engineers (Electrical) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist</p> <p>Experience and Skills Set: Extensive experience in the design of major DC transmission lines – 15 - 20 years' experience Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Insulation specialist	<p>Qualifications Line design engineers (Electrical/I) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in the design of major transmission lines up to 765kV). Insulation design and insulator selection - 4 – 10 years' experience Knowledge of transmission line design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Performance studies	<p>Qualifications Line design engineers (Electrical) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in the evaluation of performance of major transmission lines up to 765kV. Fault finding and investigation reports – 4 - 10 years' experience Knowledge of Line design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Profiler	<p>Qualifications Line design engineers (Electrical/Mech/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical /Mechanical or Civil Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in the use of PLS CADD to profile lines up to 765 kV level - minimum 4 years' experience</p>

	<p>Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Profiling engineer	See profiler for description
Project Engineering	<p>Qualifications Engineers (Mechanical/Electrical/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Mechanical /Electrical or Civil Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Skills Set: Ability to facilitate and integrates engineering solution/designs for asset creation on behalf of customers at various stages of the project lifecycle Co-ordinate a multidisciplinary design team to produce integrated multidiscipline designs and construction documentation. Negotiate and contract with all stake holders including internal and external departments. Track manage and report on progress including time, cost and quality related to the project's portfolio including technical reporting. Develop process and procedures, work practices and specifications for work management. Provides professional technical leadership over engineers within their own discipline. Good understanding and experience of all Power Delivery technical disciplines. Relevant technical qualification with design experience in EHV discipline.</p>
Reviewer	<p>Secondary plant (Protection, Telecommunication and Metering) Senior design engineer. Qualifications & Experience (minimum): National Higher Diploma (T4) - Eight (8) years post qualification experience or (M Dip Tech/B Tech/M Tech in Electrical Engineering – 4 years post qualification Professional Registration with ECSA as a professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in Transmission secondary plant system design (132kV to 765kV) Knowledge of secondary plant design standards and practices. Presentation skills Ability to work in a team</p>
Surveyor	<p>Qualifications Surveyors Qualifications (minimum): (B. Sc / diploma in Survey) Professional Registration: Professional registration.</p> <p>Experience and Skills Set: Extensive experience in the survey of transmission lines and tower setting out up to 765kV) - minimum 4 years' experience Knowledge of survey standards and practices. Technical report writing skills</p>

	<p>Presentation skills Ability to work in a team</p>
Tower Design and profiling	<p>Qualifications Line design engineers (Electrical/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Electrical or Civil Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in the profiling of lines (PLS CADD) and towers for HV transmission Lines (up to 765 kV level). 4 years' experience Knowledge of relevant design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Tower detailing & tower testing	<p>Qualifications Line design engineers (Mechanical/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Mechanical or Civil Engineering/. Diploma Engineering Civil or Mech Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist</p> <p>Experience and Skills Set: Extensive experience in the testing of towers at tower test station. Knowledge of detailing of towers Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>
Tower and Foundation design	<p>Qualifications Line design engineers (Mechanical/Civil) Qualifications (minimum): (B. Sc Eng/B. Eng/B. Tech in Mechanical or Civil Engineering Professional Registration: Professional registration with ECSA as a professional engineer or professional engineering technologist.</p> <p>Experience and Skills Set: Extensive experience in the design of foundations and towers for HV transmission Lines (up to 765 kV level). 15 to 20 years' experience Knowledge of substation design standards and practices. Technical report writing skills Presentation skills Ability to work in a team</p>

7. PROJECT MANAGEMENT DISCIPLINES/AREAS COVERED

The project management services required are based and supported by the 10 knowledge areas of the Project Management Body of Knowledge (PMBok), namely Integration, Scope, Time, Cost, Quality, Risk, Communication, Procurement, Stakeholder Management and Human Resources (HR) and in accordance with the Eskom PLCM including relevant sub-sets. In addition, there is a special emphasis on the management of safety, health, and environmental risks.

The scope of work to be performed by the appointed *Consultant* will be applicable to the following project management disciplines and/or areas:

- i. Project Management
- ii. Integrated Project Controls Management
- iii. Quantitative Risk Analysis
- iv. Contracts Management
- v. Construction Management
- vi. Commissioning Management

Typical projects include new built and refurbishment of Transmission Lines, Substations, and Telecommunication network.

7.1 PROJECT MANAGEMENT

Project Management is the application of knowledge, skills, tools, and techniques to effectively manage and control projects, required to manage the initiation, planning, execution, monitoring and controlling, and close-out of a project to achieve the objectives.

OBJECTIVE: To ensure proper management of the work of the project in terms of scope, cost, time, and quality to the required specification, fit for purpose.

The Project Management process includes the management of activities associated with initiating the project, project start up and project set up, project planning, managing delivery and deliverables on a project, closeout project, post project evaluation, change management on a project, and the setting up of a project.

The *Consultant* shall perform the work and produce the deliverables for the applicable capabilities as assigned to the *Consultant*, as listed below. The *Consultant* shall note that:

- As a result of continuous business improvement, all documents are subject to revision and the *Consultant* is responsible to ensure that the most recent edition(s) of the document(s) are used/referenced.
- The capabilities shall be delivered in accordance with any listed normative references as contained in the listed PCM's, while considering any listed informative references.

The Scope of Work includes the following:

- Initiate the project. Initiation of a project on any business project scale. Determine the nature and scope of the project, through the definition of correct project governance, the selection of the core project team as well as the development of project documents such as a project charter.
 - Develop Project Charter. High-level scope objectives, outlining the objectives, defining the authority of the Project Manager, time and cost in order to achieve the project goals. Ensure that a charter is developed that will define the project scope, time, cost and quality approach.
- Start-up project. Structuring and organising the project to commence with the workflow, this includes the planning, delivery, monitoring and over-all control.
 - Establish Project Core Team. Appoint the core skills and resources (personnel) required to start up and manage the project delivery. Ensure that the core team is established through the relevant recruitment or allocation process.
 - Define Approach to Planning. To ensure that the approach to planning is clearly defined taking Eskom requirements into consideration.
 - Compile Scope Statement. Compile and review the requirements from the Charter and develop a scope plan to manage the development of the detailed project implementation plan to guide project delivery. The scope will guide the development of the detailed project management plan, making use of the relevant charter.
- Plan the project. Planning how the project will be organised and resourced to deliver within scope, time, cost, quality and performance.
 - Develop Project Baseline Plan. Ensure a baseline plan is developed that will clearly define the technical, schedule and cost information that will be used to measure project performance.
 - Develop Detailed Project Management Plan. To manage project delivery inclusive of detailed plans to manage all the knowledge areas - Integration, Scope, Time, Cost, Quality, Human Resources, Communications, Risk, Procurement and Technology, provide all the detail needed to assist the project manager with the management of the project.
- Manage project delivery. Organise, direct, lead and control the execution and the delivery of the scope of work to accomplish the required outputs within the defined time, cost, quality performance plan and environmental plan.
 - Establish Delivery Organisation. Select delivery team and assign delivery resources, which are required to implement and manage project delivery. Role definitions, levels of authority, boundaries, Key Performance Indicators (KPI)'s for performance management, technology, people and management are defined. Ensure that all staff needed are sourced and appointed to execute the project.
 - Manage Delivery of the Project. Organise, direct, lead and control the execution and the delivery of the scope of work to accomplish the required outputs within the defined time, cost, quality, and performance plan for the project outputs, in accordance with the project management plan.
 - Execute Project Hand Over. The finalisation of all activities across all of the project functional areas to formally close the project.

Ensure that executed projects are effectively handed over to the client or stakeholder.

- Control change on the project. Complete tracking and recording of any changes to the project and its outcome over the entire project lifecycle, including the initiation, planning, setting up, delivery of the project and subsequent closing out, also the inclusion of the lessons learnt, for the benefit of related and other projects.
 - Initiate Project Change. Change requests are formally initiated through a single point of entry. Included is the creation and registration of the request, assessed for validity as a potential change. Change request is routed to an appropriate team member for assessment. If the request is not considered as a potential change, it is referred to the appropriate process.
 - Assess Project Change Impact. The impact of the potential change on the project, project objectives and risk profile are appropriately assessed and classified. Included is identifying the anticipated or actual consequences of the proposed change and estimating what needs to be added, deleted, modified, to the agreed technical, cost or schedule baselines, and the required updates to the baseline documentation. Ensure that the impact of the potential change on the project is appropriately assessed and classified.
 - Implement Project Change Solution. The change solution is implemented as planned. Included are the execution and monitoring of the change activities and reporting of the progress. Ensure that a change solution is designed in detail to meet the change requirements and project objectives and that the change solution is implemented as planned.
 - Close out Project Change Request. Validate whether the change has met the requirements from the original change request.
- Close out project. Closing out the work of the project and demobilising project resources. Confirming that the costs have been accounted for, the deliverables complete and in condition to be signed off by owners, ownership transferred from project to business operations and the respective asset fully accounted for.
 - Manage Project Close Out. Closeout the project by ensuring that the costs have been accounted for, the deliverables complete and in condition to be signed off by owners, ownership transferred from project to business operations and that assets are fully accounted for.
 - Compile Project Performance Data. Compile the data for the evaluation of the project performance to ensure that the close out performance evaluation of the project is completed.

7.2 INDICATIVE PROJECT MANAGEMENT JOB PROFILES

Designation	Description of Services and Requirements
Project Admin Assistant	<p>Provides administrative and secretarial support to the project</p> <p>Provides general office/site administrative function</p> <p>Administering filing system</p> <p>Asset Management</p> <p>Travel Management</p> <p>Qualification/Experience</p> <p>Grade 12 – 5 Years of experience</p> <p>Secretarial Diploma - 3 Years of experience</p>
Assistant Project Officer/ Project Services Officer	<p>Performs a project accounting service for the project</p> <p>Acquisition of materials, Expediting the acquisition of materials, Co-ordinate equipment and material deliveries with all suppliers</p> <p>Releasing material request into SAP and ensure that necessary approval is obtained</p> <p>Performing order releases on SAP system for approved project material where enabling agreements exists</p> <p>Project tracking</p> <p>Measuring contractual agreements against invoiced amounts</p> <p>Doing project material good receipt within agreed lead times for all capital projects</p> <p>Attending contracted supplier meetings and providing feedback as to non-compliance of orders</p> <p>Processing Invoices within agreed contractual times</p> <p>Facilitating and implementing a process of cost flows to and from programmes through monitoring outstanding invoices and submitting programme progress reports</p> <p>Calculating monthly/quarterly projections based on actual expenditure to date, future expenditure, budget risk and consultation with project managers, Integration Engineers and COE's.</p> <p>Performing SAP system financial downloads and data manipulation / reporting.</p> <p>Project tracking</p> <p>Providing project related data reports as and when required</p> <p>Project administration</p> <p>Management and maintenance of project specific documentation.</p> <p>Supporting project team in required copy work, printing, distributing of documentation and general queries</p> <p>Maintain revision control and distribution of documents.</p> <p>Advising the manager on any risks/potential problems not specifically identified in the plan/budget stage</p> <p>Qualification/Experience</p> <p>3 Year diploma in Accounting/Finance or Project Management (NQF level 6),</p> <p>4 years' experience in Finance and/or Project Management</p>
Project Coordinator	<p>To provide an effective service to support the Project Manager in order to ensure that all capital projects are completed within time, cost and quality constraints while optimising all resources used</p> <p>Supports the Project Manager in Project Planning and capital programme</p> <p>by Supports the Project Manager/Project Engineer in project engineering</p> <p>Supports the Project Manager in cost control</p> <p>Ensures the timeous supply of project material by monitoring the progress</p>

Designation	Description of Services and Requirements
	<p>of orders liaising with Eskom stores and/or Suppliers in respect of deliveries to site Co-ordinates all site personnel and <i>Contractors</i> functions on allocated projects to ensure project completion within time, cost and quality Arranges and co-ordinates all outages required for the commissioning of projects Key performance areas: Project planning Project control on cost, time and quality Project contract management Project material management SHEQ management Project communication and reporting Outage and commissioning management</p> <p>Qualification/Experience National Diploma (Engineering) (Technical) Management of projects and construction sites - 3 years</p>
Project Manager	<p>To manage and direct the activities of resources allocated to projects into a cohesive, efficient manner as well as to administer and execute projects within cost, quality, and time Managing Project Safety, Health, Environmental and Quality aspects Develops team spirit whereby all staff involved in the project are committed to the same goals relating to cost, time, and quality by Resolves disputes and conflicts among team members by: Providing measures for disputes to be lodged Applying the NEC principles and contract conditions. Escalating unresolved disputes to the next level or mediation Develops a project execution plan for project Ensuring project activities are scheduled Costing activities in line with work breakdown structure (WBS) Confirming milestones with stakeholders and customers Implementing design freeze and project baseline Ensures that control measures for cost, time and quality are in place, monitor performance Ensures that an effective communication system is in place to provide timeously feedback for management, client and customers by Ensures that contracts are managed in a way that is fair to both Eskom and the <i>Consultant/Contractor</i> Ensures the commissioning and input into CO of new assets</p> <p>Key performance areas: Project planning Project control on cost, time and quality Project contract management Project material management SHEQ management Project communication and reporting Outage and commissioning management</p> <p>Qualification/Experience B-Tech - 5 years' experience</p>

Designation	Description of Services and Requirements
Programme Manager	<p>Accountable to ensure that the Project Life Cycle Model (PLCM) is effectively implemented within a programme and ensure that the complex projects in the programme are completed on time, within cost, quality and employing relevant resources optimally in the Portfolio.</p> <p>Manage programme, accounting, costing and cost control systems Manage project planning and schedule control systems Ensure project contracting Ensure project administration and reporting Implement project management discipline and knowledge in the programme Manage programme and project management skills development Manage programme project cost estimation</p> <p>Qualification/Experience</p> <p>B-Degree/B Tech in Built Environment/ Commerce/Human Sciences at NQF 7 with 360 credits.</p> <p>Related Minimum Experience: 7 years in Project Management / Construction Management</p> <p>Professional Registration: Registered with the South African Council of Project and Construction Management Professionals (SACPCMP) as a Professional Construction Project Manager (Pr.CPM).</p>

7.3 INTEGRATED PROJECT CONTROLS MANAGEMENT

Integrated Project Controls Management comprises of cost management which includes estimating, planning and scheduling as well as development of an Integrated Work Breakdown Structure (IWBS) that need to be executed to successfully set up of project controls, monitoring of project controls, estimating and the closing out of project controls. The development of the Contractors' schedule is not included in this capability.

- Ensure development, management, and control of project plan Integrated Work Breakdown Structure (IWBS), network diagram), schedule and cost management.
- Estimating of costs.
- Ensure integrated resource planning.
- Ensure integration of sub projects/work packages/work streams plan, schedules, and cost accounts.
- Ensure stakeholder management effectiveness.

The Scope of Work includes the following:

- Provide Cost Estimate. Estimating of costs is the predictive process used to quantify, cost, and price the resources required by the scope of an investment option, activity, or project:
 - determining the economic feasibility of a project,
 - evaluating between project alternatives,
 - establishing the project budget,
 - providing a basis for project cost and schedule control,
 - understanding the scope of the activity to quantify the resources required,
 - applying costs to the resources,
 - applying pricing adjustments, and
 - organizing the output in a structured way that supports decision-making.
- Gather Estimating Requirements. To collate information needed to calculate the estimate and establish the basis of estimate requirements which will include using data and lessons learnt from previous projects as well as scope documents.
- Prepare Cost Estimate. The preparation of the estimate using data supplied from historical and current sources or relevant stakeholders (e.g. Engineering Council of South Africa (ECSA) codes from Engineers, Index info from Steel and Engineering Industries Federation South Africa (SEIFSA).
- Produce Basis of Estimate. Compile documentation required to obtain formal phase approval for the estimate, which is (for phase and / or project, inclusive of estimation effort) presented to management for approval. To review the estimate, compile the basis of estimate and validate the estimate and basis of estimate.
- Project Controls Management. Develop the project schedule considering the project planning information that includes the project scope, key dates, procurement strategy, engineering strategy, contract strategy, project risks, roles, responsibilities, constraints and thereafter sign-off and baseline the schedule. The project schedule is an input into the project plan.

- Set up Project Controls. Set up Performance Measurement Baseline. The performance measurement baseline is concerned with the amount of money that the project is predicted to cost and when that money will be used. It is the basis for the earned value reporting system and involves aggregating the estimated costs of individual schedule activities or work packages for measuring project performance. To ensure that the estimated costs of individual schedule activities or work packages will be used to measure project performance.
- Monitor & Control Project Controls. Includes periodically measuring the schedule progress, updating the schedule, identifying & managing variances against the baseline, managing budget changes, analysing schedule uncertainties and where applicable identifying whether the resources are adequate.
 - Control Project Schedule Baseline Change. The evaluation of the technical correctness and incorporating schedule changes into the copy of current project schedule. Analyse the impact of incorporated change, compile and submit recommendation based on impact assessment analysis.
 - Manage Budget Change. The estimating and management of all changes to the budget allocations across Integrated Work Breakdown Structure (IWBS) and cost element structures and inclusion thereof in the submission for authorisation through the required authority, inclusive of the status and classification of the changes. Ensure sufficient funds are available for all current and potential commitments.
 - Maintain Performance Measurement Baseline. Correctly reflect Integrated Work Breakdown Structure (IWBS) and performance measurement structures, including the correct allocation of all approved budget and schedule changes and the current approved budget is correctly time phased based on the current approved schedule.
 - Control Cost Commitments. Account for all commitments; for example, total contracts, reserved (consignment) stock, free issue stock, all other project cost expensed, etc. and reflect them accurately on a continuous basis on a project. Ensure all commitments are accounted for.
 - Update Project Schedule. The project schedule must be updated periodically when progress updates, changes and variances have been measured and received. Ensure that periodical updates of the project schedule and variances have been measured.
 - Monitor Actual Cost Incurred. Capture all actual cost incurred based on the certified value timeously, correctly, include accruals, retentions, and provisions, but exclude advanced payments. Also include all other project related costs.

- Calculate Earned Value Management. Measure the project performance in an objective manner and monitor the value of the work completed against the project baseline and actual cost incurred to evaluate if the project is on track.
 - Forecast Project Cost Flow. Determine the estimate to complete cost on a project.
- Close-Out Project Controls. The closing out of project controls will be done to ensure that all the activities are completed, and the schedule is archived.
 - Monitor Commitments Close-out. Confirm all final accounts are agreed, the certificate of completion for the relevant phase or project has been issued, all Cost Price Adjustment (CPA) calculations have been completed, all stock reservations are cancelled and all open commitment values are adjusted accordingly. After confirmation of all the coding structures can be technically closed. Ensure that all open committed values are adjusted accordingly and that the cost coding structures are closed out.
 - Monitor Actual Cost Close-out. Confirm that all final accounts are processed, all unused and free issued stock has been credited, and confirmation of operational date was received and that cost centre closures are managed. Ensure verification on the final actual cost.
 - Close-out Budget. All budget changes are processed, there are no more outstanding changes and that all unused budgeted funds have been returned to business. Ensure that all budget changes are processed, and all unused budgeted funds have been returned to business.
 - Finalise Project Schedule. Confirm that all project schedule activities are completed and marked up as such. Obtain sign-off on the project schedule and archive all project schedule data. Ensure that all the project schedule activities have been concluded and marked 100%.
 - Produce Project Controls Close-out Report. Compile and distribute close-out report and update lessons learnt. Ensure the distribution of the project controls close out report and lessons learn.

7.4 INDICATIVE INTEGRATED PROJECT CONTROLS MANAGEMENT JOB PROFILES

Designation	Description of Services and Requirements
Manager - Systems and Data Integration	<p>Roll out of new systems (10 areas) Oversight of system revisions (i.e. Primavera) Roll out of new PCM's and oversight of PCM revisions Attendance of Tools and Data study committee, Project Controls study committee Programming in Access Site and Project Documentation processes and systems</p> <p>Managing the entire Project Management Office Data and Systems Capability and functions within which includes developing strategies for improvement, directing and growing the function, determining best practice and the management of resources (people, monetary, time and constraints) Accountable for ensuring that the Project Management Office aligns to IT Governance, Risk and Compliance Manage the interface and liaison between the Project Management Office, The Operating Units and Group IT. Oversee the enabling of the application change lifecycle Oversee the management and coordination of National User Groups. Articulate and manage the data improvement and integrity within the Data and Systems Capability.</p> <p>Qualification/Experience 4-year Degree or 3-year degree plus honours Project Management and IT related experience 7 years</p>
Manager Materials Management/ Senior Advisor Materials Management	<p>Advises all divisional business units and regions on materials management and warehousing processes and procedures by advising on warehousing recommendations to SCOPS management advising and reviewing decisions, activities and agreements reached at meetings with stakeholders for implementation, acting as a liaison between the centre-led and divisional Materials Management personnel, communicating any improvements on Supply Chain Operations procedures to Business units and Regions and continuously identifying possible underlined commercial practices.</p> <p>Consult with internal and external stakeholders to ensure the Materials Management & Warehousing requirements are understood by advising criteria for identifying performance improvement opportunities, communicating Materials Management operations recommendations to operational management, consulting with External key stakeholders to disseminate and implement Materials Management and Warehousing operations requirements and information, advising Business Units on strategy implementation and providing guidelines and recommendations taking local business needs into consideration, reviewing and updating collaboration requirements based on material analysis and aligning it with operational requirements and attending related Business Unit and Cluster forums.</p> <p>Evaluate and coordinate SCOPS related projects by evaluating the execution of SCOPS projects, advising compliance to project plans, contract management, practices, procedures and systems, assessing the project progress and identifying short falls, reporting on project progress and short falls and assessing project goals and timelines to meet the project objectives.</p>

	Qualification/Experience Relevant B. Tech 6 years' experience
Documentation Officer/ Assistant Officer Documentation	Management and maintenance of Eskom project specific documentation control procedures Supporting project team in required copy work, printing, distributing of documentation and general queries Maintain revision control and distribution of Eskom documents Controls and maintains the review cycles and audit trails of all incoming and outgoing project documents submitted Managing electronic media/library Qualification/Experience 3-year Business Admin Diploma or equivalent 3 years' experience in Project and Documentation management
Senior Advisor Cost Engineer	To provide a cost engineering support and advisory service for Eskom through the development of the baseline project cost estimate, cost, and funding plans over the life of project. Provides guidance, direction, and specialized assistance for the resolution of project cost control problems. Develops, Implements and Maintains Cost Engineering Infrastructure Performs Financial Management. Performs relationship management with key stakeholders. Provides expert advisory services to Project Managers regarding all cost engineering related issues Development and training of new recruits Qualification/Experience BSc Engineering (or equivalent) Advantage Cost Engineering/financial/Project Management Diploma 5 years' experience in the following: Project management Financial management Contracts management
Senior Advisor Monitoring and Assurance	SLA's with Engineering, Procurement, Suppliers and Contractor/ <i>Consultants</i> , Land Development, Project Development department etc. Departmental KPI's, External KPI's Process for tracking and capturing Service Level Agreements (SLA) data Monitoring and analysis of above SLA's Project monitoring and assurance — project performance Supplier and Contractor/ <i>Consultant</i> performance in terms of delivery, quality Identify and implement improvement based on analysis Resource performance management (e.g. std compacts) Generate Monitoring & Assurance divisional reports and provide inputs into Portfolio consolidated reports Developing and managing relationships with key stakeholders Monitoring and assurance of portfolio controls and status across PLCM Perform issue exploration. Qualification/Experience An appropriate bachelor's degree in business, finance or engineering 6 years' experience
Snr Advisor Knowledge Management	Planning and coordinating Knowledge Management training Planning and coordinating Knowledge Management development Develop body of knowledge, facilitate information gathering/lessons learnt Conduct Knowledge Management audits

	<p>Collecting data and knowledge, managing, and storing of information Provides a continuous improvement process Facilitate and ensure policies and procedures are implemented, Research, identify and implement best practices Monitor effectiveness of Knowledge management programmes</p> <p>Qualification/Experience B.Sc./B. Com/ B degree 5 years KM experience in Knowledge preservation</p>
<p>Snr Advisor Planning & Scheduling/ Manager Planning and Scheduling Integration/ Officer Planning and Scheduling</p>	<p>Provides complex advisory services in project planning and scheduling Facilitate and ensure policies and procedures are implemented, Research, identify and implement best practices Manages master schedule and database Planning and scheduling during early stages of Project lifecycle Develop project plans for project scope, coordinate the development of a WBS, compiling project networks, review <i>Contractor/Consultant's</i> programs Coordinate updating of construction/project progress Identify deviations from critical paths and proposes solutions to revert to original programs Reporting of actual progress, identify variances, highlight potential problem areas and recommend corrective action, S-curves/earned value management Forecast project completion dates Resource scheduling Provides necessary training</p> <p>Qualification/Experience B Engineering or B. Tech (or equivalent) Advantage Project Management Diploma 7 years' experience plant, construction, and planning experience.</p>
<p>Senior Advisor Admin Integration</p>	<p>Identify, develop and Implement Content Information Management products (SPF, HyperWave, Spatial record, web page design, Quality management applications, etc) and services by identifying opportunities and threats and internal strengths and weaknesses in the documentation and record management application environment with potential solutions and improvements, scanning external environment for possible best practices and solutions, analysing the feasibility of possible solutions with regards to current work- practices, instructions, data and processes and the integration thereof, prioritizing and investigate the most promising products and services as solutions and developing programmes for proposed solutions (whether services and/or products), monitoring and assures that the services and/or products are aligned and integrated with the current data systems, Information Management and Information Technology and major documentation management applications within Eskom, implementing effective communication channels, with client, stakeholders and role players, form a documentation administration principles and policy community of Content Information System practices, adhering to quality management principles.</p> <p>Develop business cases and obtain approval for Implementation of the services and/or products when required by preparing a cost benefit analysis, researching new technologies and alternatives, setting and evaluating the acceptance criteria, analysing the products/services for potential risks, dependencies and conflicts and prepare potential solutions and development strategies, identifying all resources required with impacts and strategies to implement and presenting proposals to appropriate approval body.</p>

	<p>Administrate, maintain and enhance the current Content information Management products and services by updating and maintaining the availability of service and products indexes, provide management with a comprehensive system dashboard and distributing reports for review and confirmations purposes on a monthly basis, evaluating post implementation against the set acceptance criteria to identify sub-standard products and services and identifying the corrective actions and needs for change and initiating the actions.</p> <p>Allocate system and access control to all supporting documentation management control applications by enforcing the Eskom Logical Access Management Policy within the Division and reporting non-compliance, allocating user access profiles to relevant project staff members according to their access profiles, assuring that user access is revoked timeously when requested by line management. (Including temporary staff), escalating concerns regarding the integrity, confidentiality and availability of the application and data and assisting in the design of new systems and/or applications by liaising with users and organising workshops to validate specifications.</p> <p>Develops and implements user system manuals by planning, compiling training and implementation of best administration practices.</p> <p>Modify current and new system applications by analysing and evaluating requests for system modifications from users, consolidating all requests and presenting at the System User Forum to discuss and prioritize these requests for modifications and enhancements, monitoring and assures that user requirements are met and software is performing as intended by testing software development and / or modifications, formulating business systems specifications for enhancement and implementing and monitor all system changes.</p> <p>Tests system applications prior to implementation by tracking all project system change request, test all changes approval and implementation with BASC's coordination, testing functions of application by using dummy data and acceptance testing with project users, documenting problems encountered during testing and forwarding a list of problems to the IS Support Section who will consolidate the problems and then forward these to the development team for correction and signing-off of test results and forwarding these to Test Manager once the business is satisfied with the application.</p> <p>Provide a professional technical consultation, Investigation and training support service by promoting and communicating products, services and benefits through Technical newsletters, presenting papers, participate in regional, national GIS roadshows and seminars, providing a technical consulting service acting as mentor, providing a training support service and on job training for staff, managing and facilitating the training needs and scrutinising for non-compliance with related acts, regulations and organizational requirements</p> <p>Qualification/Experience BSc or B. Tech - 4 Years' experience in Information Management, National Diploma 5 Years' experience in Information Management</p>
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7.5 QUALITATIVE RISK ANALYSIS AND QUANTITATIVE RISK ANALYSIS

Qualitative Risk Analysis: The objective of conducting a qualitative risk analysis is to acquire safety against recognized risks and to increase the alertness of management, team members, and all personnel who are vulnerable to them. This method of risk analysis is designed to identify issues that are looked upon as project management impediments, but have the potential to become definite risk factors. A detailed qualitative analysis will also delve into the resources which are more susceptible to such risks. The purpose is to identify rectifying measures that can be incorporated to restrict or remove the causes that have given rise to such risks and to ensure that these safety measures become a part of risk-related analytical protocol for future reference.

The responsibilities of this role are to analyse, consolidate and report on project risks and issues to provide advice and an independent view of project risks for the delivery unit.

Key Performance Areas:

- Direct and coordinate the development of project risk plans
- Analyse, consolidate, and report on information received from functional teams within the delivery unit to monitor the status of risks and issues
- Manage, review and report on the implementation of the project risk management methodology
- Advise and report on the project risk management system for the delivery unit
- Maintain communication and relationships with key internal and external stakeholders.

7.6 INDICATIVE RISK MANAGEMENT JOB PROFILE

Senior Advisor Risk Analysis	<p>Functional Outputs/Activities</p> <p>Direct and coordinate the development of project risk plans</p> <p>Advise on the project risk management methodology for development of the project risk plans</p> <p>Advise and provide support for implementation and compliance to project risk management and integrated risk management methodologies</p> <p>Advise on the appropriate project risk treatment plans and track the implementation of these plans</p> <p>Monitor and report on effectiveness of the project risk treatment plans and proactively develop follow-up controls</p> <p>Analyse, consolidate, and report on information received from functional teams within the delivery unit to monitor the status of risks and issues</p> <p>Advise all functional team managers on risk management related issues</p> <p>Review and quality assure all reports from the functional teams</p> <p>Evaluate the functional team risk data to formulate a consolidated overview for the unit</p> <p>Monitor and analyse risk data for trends</p>
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	<p>Evaluate the key risk controls and provide recommendations for improvement</p> <p>Initiate and report on risk assessments</p> <p>Manage, review and report on the implementation of the project risk management methodology</p> <p>Define project risk performance objectives for each functional area</p> <p>Formulate a program of continuous improvement for project risk management within the delivery unit</p> <p>Lead a program for the identification, evaluation, profiling and quantification of project risks</p> <p>Evaluate and prioritise the implementation of recommendations to improve effectiveness of project risk management</p> <p>Influence the development of project risk management standards, procedures, processes, systems and training programmes</p> <p>Implement audit recommendations and report on compliance to the project risk auditing process</p> <p>Communicate audit findings to all relevant stakeholders</p> <p>Advise and report on the project risk management system for the delivery unit</p> <p>Initiate, facilitate and report on project risk reviews for the delivery unit</p> <p>Quality assurance of the project risk data in the designated project risk management system</p> <p>Implement the requirements of an internal project risk management system</p> <p>Advise and provide technical assistance on the designated tools and software</p> <p>Advise and implement the risk management lessons learnt in the project knowledge management database</p> <p>Maintain communication and relationships with key internal and external stakeholders</p> <p>Liaise with functional teams and <i>Contractor/Consultants</i> throughout the delivery of the unit</p> <p>Consult and communicate with the respective functional teams and key receivers on matters and issues related to project risk and integrated risk management</p> <p>Liaise and communicate on risks and issues to relevant stakeholders</p> <p>Building risk capacity within risk management personnel</p> <p>Supervise the work of support personnel for development</p> <p>Identify on-the-job training requirements, train, and develop trainees on-the-job and through formalised training programmes</p> <p>Qualification/Experience</p> <p>Bachelor's Degree in Project Management (or equivalent)</p> <p>4 years Risk Management and/or Project Management experience</p>
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Quantitative Risk Analysis (QRA) is a method of quantifying and analysing the impact of uncertainty and risk events to determine, amongst other things, the probability of achieving a project's cost and schedule objectives. The Eskom-approved QRA process generally follows pre-defined process steps that utilise the outputs of the qualitative risk assessment, an approved schedule, and an approved cost plan.

The process further entails the development of statistical models utilising the Monte Carlo sampling technique and associated input variables to produce outputs such as frequency distribution curves, histograms, and sensitivity graphs.

The Scope of Work includes the following:

- Assist with the development and maturity of the QRA philosophy and methodology where required.
- Assist with the development of Eskom-approved QRA-related training material where required.
 - Methodology
 - Process
 - Systems
- Implementation of the Eskom-approved QRA methodology.
 - Initiation of QRA implementation on projects
 - Develop project QRA implementation plan
 - Presenting QRA awareness
 - Presenting QRA process / methodology training
 - Presenting QRA systems training (Primavera P6 Risk Register / Primavera Risk Analysis / @Risk)
 - Data gathering
 - Workshop facilitation
 - Interviews
 - Review of lessons learnt
 - Development and use of check lists
 - Setting up the project QRA risk register
 - Administration of P6 Risk Register
 - Input of data gathered from incumbent and current sources
 - Developing schedule and cost uncertainty models
 - Global uncertainty distributions
 - Templated uncertainty models
 - Critical / near critical path uncertainty models
 - WBS Level 3 uncertainty models
 - Advising Project Manager on contingency determination based on uncertainty
 - Developing pre-mitigated risk models impacting schedule and cost
 - Developing post-mitigated risk models impacting schedule and cost
 - Advising Project Manager on contingency determination based on uncertainty and post-mitigated position
 - Developing "What-If" analysis
 - Fulfilling QRA reporting requirements
 - Provide QRA implementation handholding
- Provide assurance of QRA implementation and embedment deliverables being met.

7.7 CONTRACT MANAGEMENT

The purpose of the Contracts Management capability in the Eskom Project Management System (EPMS) framework is to ensure that standardised and consistent processes, procedures, standards and tools are applied to manage contracts across the phases of the Project Life Cycle Model (PLCM), and that Contracts Management is kept in line with expectations for successful delivery. Contracts Management capability includes Quantity Surveyor services.

The Contract Management capability is applicable to the entire Eskom from the establishment of a Contract Management environment to contract closure, including the management of contracts execution to ensure that objectives are achieved. This capability interfaces with the Commercial processes and is applicable to all contracts executed within Eskom Holdings SOC Limited.

The Scope of Work includes the following:

- **Cost Estimates.** Prepare order of magnitude, semi-definitive and definitive estimates by utilizing appropriate estimating methods. Determine accurate cost projects on market trends and inflation. Provide pre-tender pricing, conduct pre-tender reconciliation of bills of quantities with specifications, analyse and report on tender rates and prices.
- **Evaluate Contracts.** Evaluate all received proposals and assess them against the technical set criteria and specifications. If the proposals received are not acceptable, the tender enquiry should be re-issued.
- **Execute Contracts.** The management and administration of the contract terms, conditions, and obligations, after final award, as well as the management of the relationship between Eskom and the *Contractor*, and any changes to the contract.
 - **Assess *Contractors/Consultants* Deliverables for Payment.** This entails assessing the deliverables from *Contractors/Consultants* against the specifications set in the contract to enable payment on completion of the work. Ensure that progress is properly assessed and that payment due is certified on time.
 - **Administer Controlling of Bonds and Guarantees.** This entails the administration of bonds and guarantees as set and agreed within the contract conditions. Ensure that bonds and guarantees are accurately managed.
 - **Manage Variation FIDIC.** Ensure successful conclusion of variations to contractual scope of work. This includes engagement with *Contractors* and stakeholders to review specifications and confirm scope variations. Ensure that variations on the contract are managed and closed.
 - **Manage Claims FIDIC.** Receiving, considering, reviewing, and concluding on all claims inclusive of governance compliance. Manage claims according to the set contract conditions. Ensure that all claims are appropriately dealt with and timeously resolved.
 - **Manage *Employers* Claim FIDIC.** Issuing claims against *Contractors* for non-adherence to contractual conditions and deliverables. Manage all the *Employer's* claims as per the

set contract conditions. Ensure that all *Employer* claims against *Contractors* are appropriately dealt with and timeously resolved.

- Manage Disputes FIDIC. Receiving and declaring of FIDIC disputes and allocation of disputes to the appointed Dispute Adjudication Board (DAB) for resolution. Ensure that disputes are resolved within the contract.
- Manage Compensation Events NEC. Conclusion of all compensation events, inclusive of receiving and assessing the compensation events submitted by the *Contractor* in terms of the condition of contract. Manage all compensation events that occur within the execution of a contract. Ensure that compensation events are managed properly within the NEC Contract.
- Manage Disputes NEC. Receiving and declaring of disputes and allocation of NEC disputes to the appointed adjudicator for resolution. Ensure the proper management of disputes during the execution of the contract.
- Manage Disputes Bespoke. Supplier or Eskom submitting a notice of dispute to the counterparty with respect to the issue in dispute. This dispute could follow the normal dispute resolution process, or it can be referred to an independent expert. Within the normal dispute resolution process, it can be referred for arbitration. Ensure that disputes are handled with the correct sensitivity and that the dispute resolution channel is available.
- Close-Out Contracts. The completion and final settlement of a contract, including the resolution of any open contract items.
 - Manage Take-over. Take-over from *Contractor/Consultants* and hand over to plant owners is conducted in a controlled, efficient, and appropriate manner. Ensure that all criteria are fulfilled prior to the issuing of a Take-over certificate.
 - Terminate Contract prior to Completion. Manage the event when a contract is terminated early prior to completion by either party and ensure that it is managed in a fair and appropriate manner according to the relevant contractual terms and conditions. Ensure that contracts are terminated properly when required.
 - Administer Close-out of Retention. Manage the retention amount paid back to the *Contractor/Consultant* on completion of the contract, after all defects have been fixed, and the defects period completed. Administer the close out of retentions once a contract has been completed.
 - Issue Contract Final Certificate. Describe all the requirements needed to issue a Contract Final Certificate. Ensure that a Contract Final Certificate is issued for work performed.
 - Perform Final Account Close Out. Manage the agreement on the final account for final payment to be affected. Close out the final account on a contract.

- Close out Bonds & Guarantees. Execute the close out of bonds & guarantees as stipulated in the contract. Ensure that bonds and guarantees are managed and closed out as required according to the conditions of the contract.

7.8 INDICATIVE CONTRACT MANAGEMENT JOB PROFILES

Senior Advisor Quantity Surveyor/ Quantity Surveyor	<p>Perform functions and advise on quantity surveying standard services Draft cost estimates for capital projects Monitor <i>Consultant, Contractors</i> and supplier performance in terms of quantity and costs Draft, review, measure and control enquiry documentation Reconcile and forecast expenditure Mentor and Coach personnel Evaluation of tenders and quotations for variations submitted by <i>Contractors</i> Assessment of work valuations Creating payment certificates</p> <p>Qualification/Experience Bachelor's degree in Quantity Surveying with 2 - 4 years' experience B-Tech Quantity Surveying with 3 - 5 years' experience National Diploma Quantity Surveying with 5 - 7 years' experience</p>
Senior Advisor Contracts	<p>Responsible for the effective implementation of contracts, evaluation, risk assessment, administration, and contracts dispute resolution by providing professional Contract Management Services and controls required by the portfolio.</p> <p>Provides Support in Project and Individual Contract Strategies Provides Support and Advisory Services on the Compilation of RFI's, RFP's, RFQ's & Project Plan Provides Support to Commercial in Tender Evaluation, Negotiation and Adjudication Provides Professional Advice during the Contract Documentation Stage Provides Support and Advice in Project Risk Assessment and Profiling Provides Support and Advice in the Management of Contracts to the Project Manager throughout the Lifecycle of the Project Provides Support to Commercial on Performance Bonds, Guarantees, Advance Payments, Forward cover and DCF's as Applicable for each Contract Provides Support and Advice on the Settlement of Compensation Events and Claim Resolutions Provides Contract Management Services for the Project Management Office and Projects</p> <p>Qualification/Experience Bachelor's Degree or B-Tech or National Diploma in Quantity Surveying or Engineering or Law</p> <p>Added Advantage: National Diploma Project Management</p> <p>Related Minimum Experience</p>

	5 years Multi Discipline Contract and Project Management experience.
Manager Contracts Management	<p>To manage a complete and effective discipline contracts management service across the lifecycle of a project through collation, costing, evaluation, dispute resolution, administration, and controls of contracts on portfolio of projects.</p> <p>Plan, control, and report on the usage of task orders for professional services and other engineering/construction contracts. Determine the need for external capacity in functional areas by updating of TPD resource planning model on a quarterly basis</p> <p>Assess and evaluate performance of <i>Consultant</i> and <i>Contractors</i> against the contract and maintain records for auditing purposes</p> <p>Deliver contract management control and administration services, including managing contract compliance assurance information to minimise contractual risk to Eskom, review and report on areas of non-compliance</p> <p>Manage and report the provision of a contracts management service and ensure the validation and maintenance of accurate information in the designated system</p> <p>Initiate contracts management analysis and provide reports, manage and report on contractual analysis, identify variances, claims and compensation events, and highlight potential problem areas. Advise on cost containment approaches on projects and monitor compliance.</p> <p>Manage and resolve contract disputes, adjudications, arbitrations and legal proceedings</p> <p>Manage contract documentation, selection, population, collation and compilation for approval</p> <p>Manage and conclude tender evaluation processes, contract clarifications and cost negotiations</p> <p>Manage team performance development of skills, knowledge and capabilities</p> <p>Manage compliance with all Eskom and site related governance and safety, health, environment, risk and quality requirements.</p> <p>Qualification/Experience B Tech in Built environment, Commerce or Human Sciences</p> <p>• Related Minimum Experience:</p> <p>4 years related experience of Contracts Management in Built environments</p>

7.9 CONSTRUCTION MANAGEMENT

The purpose of the Construction Management capability in the Eskom Project Management System (EPMS) framework is to ensure that standardised and consistent processes, procedures, standards and tools are applied to manage construction across the phases of the Project Life Cycle Model (PLCM), and that construction is kept in line with expectations for successful delivery. The Construction Management capability includes Supervision and Site Support.

The Scope of Work includes supervision, monitoring and assurance on the following:

- Manage Construction Execution. Establishment and maintenance of the site and the effective and efficient coordination of all the construction project activities. This is achieved through the implementation of the site management and construction execution plans. This includes the management of site and construction management deliverables, schedule management, optimal utilisation of resources, integration of deliverables and components, quality checking, progress reporting and completion of construction and hand over to commissioning.
 - Ensure that the site is established in accordance with the site management plan to enable effective execution of construction.
 - Implement Construction Execution Plan. Ensure that the construction project goals are achieved through the effective implementation of the construction execution plan.
 - Perform Construction/Site Inspections. Perform inspections on the sites and plant in accordance with the defined standards and specifications, designs and the site management and construction execution plans. Ensure compliance with contractual specifications, standards, policies, procedures, and regulatory requirements.
 - Manage Construction Completion and Hand over. Completion of the construction of the asset and the hand over to commissioning. Ensure that completion of construction of the asset and transfer of ownership is performed as scheduled and in accordance with regulatory requirements.
 - Issue Completion Certificate. Ensure that the scope of work specified has been completed to issue the completion certificate. Ensure that a completion certificate or a sectional completion certificate for the completion of work or sectional piece of work is issued.
 - Issue Safety Clearance Certificate. Ensure safety requirements, as prescribed by Eskom and OSH Act, has been complied with prior to commissioning. Ensure that the safety clearance certificate for work completed is properly managed and issued.
- Manage Construction Close-out. All the activities required to close-out the construction phase of the project.
 - Close-out Construction Phase. Ensure that the construction phase of the project is properly and effectively closed-out.

- Perform Site De-establishment. The transferring of assets, disposal of surplus material, and the dismantling of temporary facilities. Ensure complete, relevant, timely and orderly closure of site activities.
- Site Support. Client Liaison for the project by facilitating information flow amongst project employees, to the impacted communities and project stakeholders. Furthermore, support which entails acting as liaison agent between the community and the *Contractor*. Provide a link between local resources and the *Contractor*. Updating the *Contractor* of community affairs and possible dynamics. Coordinate communication dialogues between employees as well as community's leadership and clients to maintain a strong working relationship in the respective areas of construction works. Complete the necessary administrative tasks related to implementation of projects. Report monthly to the *Employer* and the community structures with respect to local involvement and the equity status of employees.
- Site Support. Project Stability for the project to develop, lead, facilitate and integrate the stakeholder management planning, system, and reporting framework to support the project stakeholder relations function through strategic alignment with project objectives. Facilitate stakeholder engagement by planning; preparing; implementing; acting, reviewing and improvement within the designated areas.
 - Prepare reference to database of local resources
 - Develop integrated communication strategy and plans for projects.
 - Managing project stakeholder management and media relations issues.
 - Update the *Contractors* of community affairs and possible dynamics
 - Assist the *Contractor's* supervisory staff in the management of workers
 - Project stability risk and mitigation
 - Ensure adherence to all *Employer's* processes, protocols, and policies to maintain the integrity and relationship on site and in the work environment
 - Complete the necessary administrative tasks related to implementation of projects
 - Developing and implementing emergency communication.

7.10 INDICATIVE CONSTRUCTION MANAGEMENT JOB PROFILES

Designation	Description of Services and Requirements
Client Liaison Officer	<p>To act as a liaison officer for the <i>Contractor</i>, to facilitate information flow amongst employees, to the impacted communities and project stakeholders.</p> <p>Facilitate stakeholder engagement by planning; preparing; implementing; acting, reviewing and improvement within the designated areas • Act as liaison agent between the community and the <i>Contractor</i> • Provide a link between local resources and the <i>Contractor</i> • Prepare reference to database of local resources • Update the <i>Contractor</i> of community affairs and possible dynamics • Assist the <i>Contractor's</i> supervisory staff in the management of workers • Coordinate communication dialogues between employees as well as community's leadership and clients to maintain a strong working relationship in the respective areas of construction works • Ensure adherence to all client's processes, protocols, and policies to maintain the integrity and relationship on site and in the work environment • Complete the necessary administrative tasks related to implementation of projects • Report monthly to the client and</p>

	<p>the community structures with respect to local involvement and the equity status of employees.</p> <p>Qualification/Experience</p> <p>A relevant Diploma/ Degree in communication or public relations with at least 2 years' experience in client liaison or customer relationship or community liaison management environment.</p>
Senior Site Supervisor /Site Manager	<p>Site Manager, who will be responsible for being the Project Manager's representative on site will be responsible for overseeing the overall construction activities, arranging site access, line outages and assist with line crossing arrangements, progress reporting, quality control of the project works, line inspections for take-over/handover, site administration and the management of site resources (See other Site resource responsibilities for further detail).</p> <p>Monitor and ensure compliance of <i>Contractors</i> and personnel to project risk and safety plan.</p> <p>Resolves disputes and conflicts among team members.</p> <p>Manages site team and updates site activities on project execution plan.</p> <p>Manages control measures for cost, time and quality.</p> <p>Provides effective and timeous feedback to Project Managers.</p> <p>Monitors and verifies that contracts are managed in a way that is fair to Eskom and the <i>Contractor</i>.</p> <p>Maintain proper site administration and filing function to cater for all site related issues and correspondence. Reports to be complete and proper photos taken for all work done.</p> <p>Ensure that the materials supplied by the Client/<i>Contractor</i> are correct in quantity and quality on site according to approved design. Monitor and report quantities and quality of materials issued by the Client/ <i>Contractor</i> on site.</p> <p>Ensure materials are stored according to related specifications and standards.</p> <p>Record all the defect materials and submit a report to the Project Manager/SHEQ Manager/Senior Quality Advisor</p> <p>Keep accurate site diary and log sheets. (Daily reports, check sheets, photos Data Base, Material, etc.)</p> <p>Supply all information daily/weekly for the completion and management of the Eskom Site Management System.</p> <p>Manage drawing register and drawing updates on site and report.</p> <p>Manages the commissioning process of new assets.</p> <p>Qualification/Experience</p> <p>Electrical / Civil National Technical Diploma - 10 years in Electrical / Civil Engineering environment</p> <p>Electrical / Civil National B. Tech - 7 years Electrical / Civil Engineering environment</p> <p>Advantage internal Eskom courses</p>
Generic Principal Clerk	<p>Responsible for the recording and filing of site information as per the requirements indicated in the as built records, ISO 9001 management system, ISO 18001 management system, and ISO14001 management system.</p> <p>Provide administrative and secretarial for Site Manager and Site Representatives</p> <p>Providing general office administration for Site Manager and Site Representatives</p> <p>Load, capture and maintain data for Site Manager and Site Representatives</p> <p>This position is to be filled by a local to site individual, sourced from the vicinity</p>

	<p>of the site office.</p> <p>Qualification/Experience Grade 12 – 8 years' experience Secretarial Diploma/certificate 5 years' experience</p>
Site Supervisor/ Representative	<p>Provide supervision of the site contracts. The scope of supervision includes supervision, monitoring and assurance on the following:</p> <p>Adherence to application and enforcement of latest revisions of applicable <i>Employer's</i> policies and procedures, as amended from time to time</p> <p>Ensure all personnel and activities comply with relevant health, safety, and environmental standards & procedures (Eskom and Legislative). Conduct safety risk assessments where high risk plant is working</p> <p>Monitoring and report <i>Contractor</i> working hours/manpower numbers, including the sub-<i>Contractors</i> and visitors on site and overtime to ensure that it is within the project specifications and requirements.</p> <p>Ensure that good housekeeping practices are followed and maintained by all personnel on site.</p> <p>Communicate and report to Site Manager/Project Manager/SHEQ Manager/Senior Advisors (Safety/Environment).</p> <p>Complete the daily SHE checklists and data base forms to ensure compliance to SHE requirements and any other checklist communicated. Maintain all the necessary SHE forms/records.</p> <p>Report all incidents to the Site Manager /Project Manager/SHEQ Manager.</p> <p>Plan daily tasks according to site program, <i>Contractor's</i> schedule, and approved method statements.</p> <p>Monitor and report the <i>Contractor's</i> progress in terms of the approved schedule.</p> <p>Provide all daily reports (database and other), documents, photos, labour and equipment information etc.</p> <p>Approved method statements to be communicated to all role players and monitor that the work is done accordingly.</p> <p>Be familiar with the contract documents, drawings, schedules, specifications, and method statements to monitor and report all construction works in terms of quality, time and cost.</p> <p>Inspect the work done on site in accordance with specifications / instructions and re-measure where required.</p> <p>Inspect the <i>Contractor's</i> equipment in his presence and observe the way the work is carried out.</p> <p>Assist in the visually checking of the delivery instruction note applicable for free issue materials.</p> <p>Carry out inspections, witness tests and complete all relevant forms as required by the various standards and procedures. Issue of NCR's when deviations are noted</p> <p>Carry out audits and surveillances as directed. (Vehicles, equipment on site, activities etc.)</p> <p>Issue Non-conformances, punch lists and applicable instructions in line with Eskom's Quality Management System in liaison with Site Manager /Project Manager/Senior Quality Advisor/SHEQ Manager where applicable.</p> <p>Submit all the Non-conformance issued to SHEQ Manager/Senior Advisors (Quality/Safety/Environment)</p> <p>Follow procedure of issuing all relevant documents and communication before issuing site instruction. Inform Project Manager.</p> <p>Issue site instructions to complete work as per safety standards/contract specifications on instruction from Project Manager. (Monitor compliance)</p>

	<p>Get realistic schedule from <i>Contractor</i> to assist and arrange dates with Customers and Eskom National/Regional Control for outages and commissioning.</p> <p>Arrange outage/ commissioning dates with Eskom when the <i>Contractor</i> commits to dates.</p> <p>Complete checklists and Data Base forms daily.</p> <p>Recommend design modifications to the Site Manager/Project Manager as and when the particular site conditions warrant it.</p> <p>Issue <i>Contractors</i> communications for clarification of certain aspects of the works in liaison with the Site Manager/Project Manager where applicable.</p> <p>Assist in certifying time and quantities of invoices/claims from <i>Contractors</i> for correctness as far as site work is concerned.</p> <p>Arranging the site related component of the compilation of completion and handing-over documentation and any other related documents.</p> <p>Timeously identify any sensitive site issues which may affect contractual aspects and report this to the Site Manager/Project Manager.</p> <p>Monitor for the correct measurement of rated quantities in cooperation and agreement with the <i>Contractors</i> concerned.</p> <p>Qualification/Experience</p> <p>Electrical / Civil National Technical Diploma - 5 years in Electrical / Civil Engineering environment</p> <p>Electrical / Civil National B. Tech - 3 years Electrical / Civil Engineering environment</p> <p>Advantage internal Eskom courses</p>
Stability Officer/Advisor	<p>Integrate the stakeholder management planning, system, and reporting framework to support the project stakeholder relations. Project Communication, Employee Relations. Provides a professional stakeholder management, communication service, and advisory function to projects and external stakeholders, within the project's jurisdiction, through effective communication and stakeholder relations processes, which maintain coherence within the organisation and influence opinion and behaviour internally and externally. Identify and advise on stakeholder insights, issues, concerns, and expectations gathered from continuous environmental scanning. Planning, developing, and implementing stability strategies. Liaise and advise leadership and key spokespeople and subject matter specialists for reputation management by compiling, planning, executing, and evaluating communication plans within identified stakeholder platforms. Advising and monitoring of corporate identity to enhance brand management. Coordinate the appropriate and effective communication mediums within projects. Strategic event planning and management. Develop and implement research campaigns to monitor perceptions. Facilitate crises management and recovery management. Perform project media management. Champion stakeholder management and communication</p> <p>Qualification/Experience</p> <p>Stakeholder Management/Communication/Public Relations or Relevant B Degree in a relevant field. 3-4 years related experience</p>

7.11 COMMISSIONING MANAGEMENT

The Commissioning Management capability includes the development of the Commissioning Plan and the management and execution of the plan on site. The Commissioning Management capability could include performing actual commissioning activities on site.

Commissioning ensures the provision of the infrastructure and resources required for the commissioning team to assure all systems and components including associated telecommunication equipment are installed, tested, and made operationally ready for handover to the owner or operator. This can include the testing of any product or solution delivered by the project. E.g.: User acceptance testing of an application, business process or plant unit operation.

- Establish Commissioning
 - Ensure appropriate structures and schedules are put in place to support the commissioning of an asset.
 - Develop Integrated Commissioning Schedule. Include all commissioning system specifications. Ensure the systematic control over the commissioning activities to successfully hand over the asset.
 - Develop commissioning packages to reflect system requirements, diagrams and drawings, process, and instrumentation diagrams (P&IDs) construction diagrams, commissioning procedures and checklists, technical specifications, control, and operating philosophies (to be done with Eskom commissioning teams).
 - Effectively execute verification of operability including checking and applying settings as required.
- Manage Plant Commissioning
 - Manage System Cold Commissioning. Verifying and adjusting an item or section of plant for service, which has been completed successfully, inspected, safety cleared and pre-commissioned. Although the plant is energised at this stage, the equipment and systems are not ready for continuous operation as yet.
 - Control system function testing is also performed during this stage. Ensure the integrity of the asset, functionally prove that the different areas are built according to the intent and that systems are ready for hot commissioning.
 - Manage System Hot Commissioning. Putting into service an item or section of asset which has been completed successfully, inspected, safety cleared and cold-commissioned. A characteristic for this phase is the presence of an operating medium and fuel in the systems, the permanent energising of equipment and systems and their readiness for continuous operation. Individual systems are commissioned and integrated to form a process. Must be able to apply HV regulations in all planning and decision making. Ensure successful conversion of a constructed asset into a working asset through final integrity testing of the asset, to ensure the plant can be sanctioned to be energized.

- Verify Functional Performance. Confirming the performance of the asset in accordance to the Stakeholder Requirement Definition (SRD) and the grid code compliance. Ensure that the operational asset is functioning according to specifications and ready to be handed over.
- Verify Asset Performance. Evaluating limitations of the asset and integrate the components, optimise the performance in terms of process and process control systems to meet SRD requirements. Ensure the optimal performance of the asset according to Stakeholder Requirement Definition.
- Close Out Commissioning. Ensure that the deliverables have been completed and that the asset is in a condition to be signed off and transferred to the client.
- Design critical pre and post outage performance parameters to measure outage effectiveness.
- Request and Review outage permit when applicable.
- Ensure plant is commissioned in a logical sequence as per the plant functional descriptions (And if applicable, with as little disruption to existing plant.)
- Check the drawings and to mark up the as-built drawings.

7.12 INDICATIVE COMMISSIONING MANAGEMENT PROFILES

Designation	Description of Services and Requirements
Middle Manager Commissioning	<p>Review and acceptance of test and commissioning reports from commissioning teams. (Test plans); Ensure all requested modifications has been implemented. (Record); Be present during the energizing stages at the substations. (Record on loads); Assist with the compiling of commission procedures and outage planning for commissioning purposes. (Plans); Assist with secondary plant resource scheduling; Assist Eskom Grids in reviewing Application Design (Drawings)</p> <p>Provide feedback on the progress of commissioning teams. (Report)</p> <p>Attend site project meetings as-and-when requested</p> <p>Assist with integration planning including but not limited to negotiating outages and access to plant with various stakeholders to minimise standing time on the secondary plant scope of the project. (Outage Plan)</p> <p>Witness protection stability and circuit tests during primary injection test stages. (Report)</p> <p>Witness random functional operations of protection and control schemes. (Functional matrix)</p> <p>Provide technical support to commissioning teams on site when required.</p> <p>Provide technical support to Application Design personnel when required.</p> <p>Provide consolidated secondary plant (protection, control, DC, SCADA, telecoms etc) feedback regarding acceptance of plant before energising of a diameter or station. (Hand Over)</p> <p>Ensuring that milestones are realistic, cognizant of all realistic influences and determined by consensus.</p> <ul style="list-style-type: none"> • All documentation and interface designs have been confirmed with site specific information • Commissioning activities are in line with and performed in accordance with laid down quality plan • Witnessing functional testing of new and or refurbished plant when required • Leading technical and engineering activities from inception of project to final commissioning • Managing relevant technical documentation from the feasibility phase to the decommissioning and shutdown phases • Correcting design errors and proposing appropriate solutions • Conducting technical risk assessments and formulating appropriate mitigating action plans • Verifying tests results and witnessing of final commissioning • Ensuring safe re-connection to the electrical network <p>Qualification/Experience</p> <p>National diploma in electrical engineering 7 years' experience.</p>
Manager Commissioning	<p>To manage the commissioning team and demonstrate operability and reliability of the plant to ensure project deliverables are compliant with user requirement specification (URS) and the design and control philosophy.</p>

	<p>Supervise the delivery of the commissioning operations and output for the unit</p> <p>Manage and harmonise the interface and integration of systems, disciplines and plant</p> <p>Manage and drive all commissioning and optimisation of the plant to ensure proof of operability and reliability prior to and after commissioning</p> <p>Manage and resolve commissioning plant risks and incident investigations</p> <p>Manage team performance, development of skills, knowledge, and capabilities</p> <p>Manage communication and relationships with key stakeholders</p> <p>Manage compliance with all Eskom and site related governance and safety, health, environment, risk and quality (SHERQ) requirements</p> <p>Qualification/Experience</p> <p>B-Degree or B-Tech in Built environment / Commerce / Human Sciences at NQF 7 with 360 Credits</p> <p>5 years Construction Project Management / Engineering</p>
Senior Advisor Commissioning	<p>To manage the commissioning team and demonstrate operability and reliability of the plant to ensure project deliverables are compliant with user requirement specification (URS) and the design and control philosophy.</p> <p>Supervise the delivery of the commissioning operations and output for the unit</p> <p>Manage and harmonise the interface and integration of systems, disciplines, and plant</p> <p>Manage and drive all commissioning and optimisation of the plant to ensure proof of operability and reliability prior to and after commissioning</p> <p>Manage and resolve commissioning plant risks and incident investigations</p> <p>Manage team performance, development of skills, knowledge, and capabilities</p> <p>Manage communication and relationships with key stakeholders</p> <p>Manage compliance with all Eskom and site related governance and safety, health, environment, risk, and quality (SHERQ) requirements</p> <p>Qualification/Experience</p> <p>B-Degree or B-Tech in Built environment / Commerce / Human Sciences at NQF 7 with 360 Credits</p> <p>5 years Construction Project Management / Engineering</p>

<p>Snr Supervisor Tech Commissioning</p>	<p>To execute the commissioning activities in accordance with the commissioning plans to deliver an operable plant</p> <p>Implement the activities detailed in the commissioning plan</p> <p>Prepare and execute the commissioning of plant and participate in the commissioning procedure review process</p> <p>Provide support in all integration activities with the relevant disciplines for the delivery of the commissioning effort</p> <p>Provide support in the assessment and treatment of risks of the overall plant during commissioning</p> <p>Comply to all Eskom and site related governance and safety, health, environment, risk and quality (SHERQ) requirements</p> <p>Qualification/Experience</p> <p>National Diploma in Engineering or Construction Project Management</p> <p>Related Minimum experience</p> <p>3 years related experience in Commissioning or Construction Project Management or Engineering</p>
<p>Senior Technician (Commissioning)</p>	<p>Perform and complete documentation required for testing equipment on the Transmission substation protection system. Protection system components include, but are not limited to, potential transformers, current transformers, DC circuits, station batteries, circuit breaker components, protective relays, communication systems, and test switches.</p> <p>Calibrate and perform functional tests on microprocessor and electromechanical type relays.</p> <p>Install, maintain, analyse, and troubleshoot remote terminal units (RTU's), SCADA equipment, and protective relays.</p> <p>Understanding the fundamentals of Human Performance Tools and requirements of using them while working on the substation protection system</p> <p>Independently perform and/or assist with the investigation of distribution operations and outages.</p> <p>Install, maintain, and test electrical control equipment, electrical circuitry, and components according to engineering specifications.</p> <p>Diagnose, analyse, troubleshoot, and make recommendations related to malfunctions/failures and perform preventive/corrective maintenance on protection system equipment.</p> <p>Verify that all documentation and prints meet applicable specifications/standards and modify drawings to reflect any changes.</p> <p>Coordinate with other departments both inside and outside the company to support construction, maintenance, and testing activities.</p> <p>Enhance and establish programs that maximize results while reducing overall costs.</p> <p>Other responsibilities, as assigned</p> <p>Qualification/Experience</p> <p>National diploma in electrical engineering</p> <p>5 years' experience</p>

7.13 QUALITY MANAGEMENT

7.13.1 SYSTEM REQUIREMENTS

The *Consultant* shall have a fully documented, implemented and maintained Quality Management System which complies with the requirements of the ISO 9001 or their quality management system shall carry valid certification from an acceptable QMS Certification body. The *Consultant* to provide a quality plan within 30 days of contract signing, and once accepted will form part of the contract documentation.

Performance evaluation templates will be discussed after contract award by both *Employer* and the *Consultant*. Service performance will be measured twice a year by the *Consultant* and provide feedback to the *Employer*.

Non-conformance report will be issued if the *Consultant* does not meet *Employer* Quality requirements. If there are any defects as per technical specification, the non-conformance report will be issued and monitored until closure.

7.13.2 INFORMATION IN THE QUALITY PLAN

Clause 40.2 requires that the *Consultant* provide a quality policy statement and quality plan which complies with requirements stated in the Scope. The quality policy statement and quality plan to be provided at tender stage which will then form part of the contract documents. Refer to.

7.14 INDICATIVE SHEQ MANAGEMENT PROFILES

The *Consultant* shall also be required to provide the following services as per the task order request form to oversee quality management.

Quality Officer	<p>Develop, Maintain and Manage an effective Quality function for Tx Projects at the sites</p> <ul style="list-style-type: none"> • Quality Assurance Consulting function • Preparations and conducting internal Quality Audits • Quality and Risk Program • Quality Awareness and Culture <p>Quality Administration</p> <p>Qualification/Experience B Degree/B. Tech (in technical field with specialist training in quality management) National Diploma (S4 or N6 / Technical) 3 years' experience or B. Tech (Total Quality Management) 2 years' experience</p>
Senior Quality Advisor/ Quality Officer	<p>Providing a quality consulting service by developing, implementing and maintaining a Quality and Risk program for TPD sites that will build the required culture, developing and implementing an effective and practical system that will ensure world class Quality practices, ensuring the compliance of TPD to all Quality Requirements as set out by SANS standards, legislation and Eskom directives, taking accountability for the achievement and retention of Quality ISO certification where applicable, advising the TPD Management Team of potential hazards and/or conditions that may threaten TPD's reputation, managing the continuous assessment and improvement of TPD's Quality, developing and maintaining Quality related awards that will create the desired culture within CED, liaising with internal and external bodies with respect to future Quality related developments and trends, providing a consulting service to Management, Employees and Sections on Quality related matters and networking with clients, suppliers and other organisations to ensure the implementation of the most appropriate solutions.</p> <p>Performing internal auditing by managing the conducting of regular audits and inspections to ensure that laid down Quality standards are met, maintaining an effective Internal Auditing process that will ensure that TPD will continue to comply with the Quality certification requirements, interpreting and reporting to the TPD Management Team the Quality audit results as well as remedial action plans, facilitating regular external audits by the appointed TPD Certification Body, proactively identifying improvement opportunities and proposing solutions whilst performing audits, facilitating the internal management auditing process and analysing and trending of historic audit results to identify areas of concern.</p> <p>Maintaining a risk program by planning and organising Quality Inspections and Risk audits, identifying non-compliances and improvement opportunities in the work environment and</p>

	<p>implementing corrective actions, scanning of legislative requirements and informing management and staff of relevant changes thereto, ensuring compliance to legislation and Eskom Directives, managing staff appointments in terms of prescribed ISO requirements, determining Quality and Risk training needs and identifying interventions to address these requirements, implementing an effective corrective action process that will address root causes and recurring incidents and liaising with the Accreditation Body in terms of matters relating to the ISO compliance of CEO.</p> <p>Creating quality awareness and culture by implementing an effective Quality communication and promotion plan, developing and implementing an award system that will recognise individual achievements and contribute towards achieving the Quality goals of TPD, developing and implementing a set of Quality KPI's and criteria that will monitor the performance of TPD, implementing a Quality promotional strategy that will encourage the desired culture and developing and presenting of awareness interventions and induction programs.</p> <p>Performing quality administration by developing, implementing and maintaining an effective documentation management system, managing and controlling the reviewing and updating of processes within the Quality system, managing the integrity of the Quality Documentation System and ensuring the arrangement of Quality related meetings in accordance with relevant policies.</p> <p>Qualification/Experience B Degree/B. Tech (in technical field with specialist training in quality management) 5 years' experience</p>
Quality Manager	<p>Manage the implementation, administration, and review of a quality assurance program</p> <p>Manage the implementation and review of the quality control program.</p> <p>Manage the performance for site and supplier inspections.</p> <p>Managing the development and preparation inspection checklists and quality control plans.</p> <p>Managing the procurement and supplier assessment for the project.</p> <p>Manage the issue and review for all non-conformances on supplier's and follow-up on corrective and preventive actions until closure</p> <p>Manage the measurement and reporting of quality performance.</p> <p>Manage the staff and resource of the section</p> <p>Qualification/Experience B Degree/B. Tech (in technical field with specialist training in quality management). 5 years' experience</p>

7.15 HEALTH, SAFETY, ENVIRONMENTAL

The *Consultant* shall at all times comply with the health and safety requirements prescribed by law and the *Employer* as they apply to the *services*. Failure to comply shall result in the Employer suspending the execution of services and removing the *Consultant* from site until compliance is achieved. The *Employer* may cancel a Task Order and/or terminate the contract depending on the situation and risks to people, plant and equipment, reputation, and the *Employer's* business of electricity supply.

The *Consultant* shall comply with the health and safety requirements contained on the Task Order (Addendum B to this Scope). The relevant Site / Project Manager shall require the *Consultant* to attend SHE Induction training provided by the *Employer*. It is essential that the *Consultant* is conversant with Eskom safety procedures training prior commencing any work on site.

If the *Consultant* may be required to work on Eskom premises, where health and safety requirements additional to those prescribed by law apply, refer to Section 3.1 of this document for applicable SHEQ policies and procedures.

The *Consultant* is a Project Management Consultant Company and not a Principal Contractor. If there any changes during the five-year contract with TAP, for example contracting for EPCM, all the *Employer's* SHEQ policies and procedures will be applicable.

7.15.1 LIFE SAVING RULES

In the interest of promoting a safe and healthy working environment, the Eskom Executive Committee has approved the implementation of life saving rules, to improve safety in the organisation. These rules will also be applicable to all contracting staff.

The business is concerned about the emotional, social as well as economic effect of all these unnecessary incidents, and would like to correct behaviour pro-actively.

These rules are determined beforehand to enable the organisation to clearly communicate the established Life Saving Rules and how to deal with non-compliance to the workforce prior to the implementation of such rules.

Failure by any person or *Consultant/Contractor* engaged in doing business with Eskom to adhere to these rules, will lead to serious action being taken with serious consequences (including being refused access to site). These actions include termination of service of an individual and even blacklisting of *Consultant/Contractors* not taking the rules seriously. It is therefore strongly advised that these rules be taken seriously, communicated to all your staff, ensure that they all

understand the rules, understand the consequences of violating a rule and sign a document stating that they understand and acknowledge the implications of these rules.

Eskom Life Saving Rules are:

Rule 1: Open, Isolate, Test, Earth, Bond and/or Insulate before touch (above 1 000 V)

Rule 2: Hook up at heights

Rule 3: Buckle up

Rule 4: Be sober

Rule 5: Ensure that you have a permit to work

7.16 INDICATIVE HEALTH, SAFETY, ENVIRONMENTAL

The *Consultant* shall also be required to provide the following services as per the task order request form to oversee SHE management.

<p>Safety / Environmental Officer/Environmental control Officer</p>	<p>Implement and monitor risk specific Occupational Safety, Health and Environmental risk assessments & audit processes.</p> <p>Implements, enhances and maintains occupational safety, health and environmental programs within the parameters of legal requirements, ISO, OHSAS & best practice. Provide professional advice and guidance on Occupational Safety, Health & Environment.</p> <p>Assess the business needs with respect to Occupational Hygiene risks, implement and monitor control measures.</p> <p>Scheduling and implementing of safety, health & environmental audits.</p> <p>Compile accurate projections on the integrated safety risk and ensure legislative and business risks created by accidents are managed.</p> <p>Implementing and evaluating the lifestyle of risk management processes and projects.</p> <p>Implementation and monitoring of occupational safety, health & environmental standards and procedures</p> <p>Qualification/Experience</p> <p>Relevant B degree/Nat. Diploma in Occupational Health or Environmental Health or National Diploma in Safety</p> <p>3 years' experience in Occupational Health and Safety</p>
<p>Senior Advisor Safety Risk Management</p>	<p>Ensures and reports that all Incidents are correctly classified and investigated within the prescribed timeframe by providing risk profiles by prioritising risks that are identified according to probability, severity and frequency of occurrence, identifying the root causes, undertaking research for solving identified health and safety risk for improving the situation, advising or the corrective actions emanating from the research/ investigation,</p>

	<p>ensuring that corrective actions are implemented to prevent recurrence of these incidents in future and sharing lessons learnt from the incident, monitoring occupational hygiene and safety indicators and analysis of trends, evaluating, auditing and reviewing risk control programmes and compiling case studies of lessons learnt.</p> <p>Ensures that all relevant information about incidents is captured/ recorded/ documented in SAP- EHS which is the approved electronic system, by reporting on First Aid Cases, Medical Cases, Occupational diseases, Lost Time Incidents, Fatalities, Man-Hours Worked (Numbers) including Labour Broker employees Leadership Observations (actual versus target) and SMAT Training</p> <p>Provides a professional SHE servicing function by interpreting the Eskom policies, standards and procedures and developing operational OCE guidelines and procedures, representing the OCE division in other risk control areas where necessary to reduce Eskom's risks, and ensuring that all employees are aware of their SHE roles and responsibilities with respect to themselves, their colleagues, members of the public, and the environment.</p> <p>Ensures that the following statutory appointments have been made as per the OHS Act 85 of 1993 by appointing Section 16(2) responsible persons, Health and Safety Representatives, First Aiders and Evacuation Wardens.</p> <p>Ensures that all OCE staff undergoes Medical Surveillance by providing a baseline health status against which future changes can be measured and maintaining a database and reminding staff when these are due.</p> <p>Ensures that the Behavioural Observations — Leadership in Safety observation process is implemented in the OCE to ensure that work is performed in accordance with the prescribed procedures and is performed safely by ensuring that Managers and Supervisors conduct these behaviour observations, providing the appropriate behavioural observation training and ensuring that a safety contact discussion is held at the start of all meetings.</p> <p>Ensures that on the job training is implemented in the OCE by facilitating induction training for all new employees, ensuring that all employees are trained or made aware of the importance of the Life Saving Rules as well as the consequences of non-compliance, ensuring that awareness programmes in the OCE are introduced and maintained by ensuring that each driver is certified as medically fit to drive a vehicle and that the medical certification shall be done according to Eskom's and legal requirements for all drivers, each driver is in possession of a valid national drivers licence as well as an Eskom driver permit, where required, shall undergo driver training and staff wear seatbelts at all times whilst driving and that all passengers are buckled up.</p>
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	<p>Qualification/Experience Relevant B degree/Nat. Diploma in Occupational Health or Environmental Health or National Diploma in Safety 5 years' experience in Occupational Health and Safety</p>
Senior Environmental Advisor	<p>Minimize risk to Eskom in terms of environmental and sustainability aspects Interpret and monitor current and future legislation, determine and communicate relevance to project team Liaison with stakeholders Evaluate and mitigate identified risk Provide Departmental support Develop and propose action plans and methodologies which will assure optimum environmental management, minimising legal and financial liabilities Provide support and direction to projects on environmental and legal matters Training and awareness.</p> <p>Qualification/Experience Relevant tertiary Scientific qualification or a qualification in Environmental Management. Registered or register able with the South Africa Council of Natural Scientists. 5 years' experience</p>
SHE Manager	<p>The Safety, Health, Environmental (SHE) Manager reports to the Project Field Manager and is responsible for the successful day-to-day execution of the project at the project site in implementing and maintaining the required Loss Control Procedures.</p> <p>Responsible for successful execution of the construction of the project. Provides leadership to the site staff and all organizations on site. Directs staff in the daily, weekly planning process. Functions as the primary site representative in the area of safety, health and environmental management. Implements standards and procedures, develops project specific procedures and allocates resources and makes decisions in support of project strategies.</p> <p>Qualification/Experience Relevant B degree/Nat. Diploma in Occupational Health or Environmental Health or National Diploma in Safety 5-years' experience in Occupational Health and Safety</p>

8. MANAGEMENT OF WORK DONE BY TASK ORDER

Refer to Addendum B for the format of a Task Order which shall be used by the *Employer* as the means of instructing the *Consultant* to deliver *services*. No work shall be carried out without a signed Task Order issued by the *Employer's Agent*.

The Task Order shall specify the scope of *services*, *deliverables*, *starting and completion dates* and the cost allocation. The *Consultant* shall deliver *services* within the constraints stipulated on the Task Order and engage the *Employer* as soon as the *Consultant* becomes aware of any risk in this regard. Any work executed outside the parameters stipulated on the Task Order, including cost, shall be for the *Consultant's* account notwithstanding delivery and acceptance of *services* that may be made by the *Employer* or people in the *Employer's* organisation.

All Expenses shall be paid for by *Consultants* and reimbursed at cost after assessment. The *Consultant* shall include itemised estimated expenses in all proposals in response to Requests for Proposals issued by the *Employer*. Forecasts of estimated *Expenses* shall be submitted to the *Employer's* Requesting Manager for acceptance at the Assessment meeting. Expenses that are incurred without the *Employer's* prior acceptance in writing shall not be reimbursed by the Employer.

8.1 Review and Acceptance of Deliverables

Deliverables generally follow the process outlined in Table .

Table 1: Process for Requests for Proposal

Note: No work shall be carried out without a signed Task Order issued by the *Employer's Agent*.

Ref.	Task	Responsibility
A	Requisition form fully signed by the Portfolio submitted to Project Management Office team	Requesting Manager
B	Verification of the request forms	Project Management Office team
C	Requisitions get discussed and approved	<i>Employer's Agent</i> and the Steering Committee Chairperson or Portfolio Senior Manager
D	Review CVs of the shortlisted candidates and make your selection or request further interviews of the shortlisted candidates	Requesting Manager
E	Sign the Interview Summary Sheets of the preferred candidates and submit the to the <i>Consultant</i>	<i>Employer</i>
F	<i>Consultant</i> to submit budget estimate of rates and expenses	<i>Consultant</i>
G	<i>Employer</i> reviews the budget estimate, approves, and submit it to the <i>Consultant</i>	<i>Employer</i>
H	<i>Employer</i> raises Purchase order for the Task	<i>Employer's</i> Appointed Assistant Project Officer
I	<i>Consultant</i> prepares conducts criminal checks	<i>Consultant</i>
J	<i>Employer</i> submits person job specification	<i>Employer</i>
K	The resource does medical surveillance	<i>Consultant</i>
L	<i>Consultant</i> submits the medical fitness certificate to the <i>Employer</i>	<i>Consultant</i>
M	<i>Consultant</i> communicates the deployment of the resource to site to the <i>Employer</i>	<i>Consultant</i>
N	<i>Employer</i> receives all the documents required to create the Unique Number for the office-based resources	Requesting Manager
O	<i>Employer</i> forwards documents to the HR Shared Services	Requesting Manager
P	<i>Employer</i> completes the access request form	Project Management Office team

Table 2: Process for Review and Acceptance of Task Order Deliverables

Note: No work shall be carried out without a signed Task Order issued by the *Employer's Agent*.

Ref.	Task	Responsibility
A	<i>Employer</i> prepares Task Specification Sheet	<i>Employer</i>
B	<i>Consultant</i> reviews Task Specification Sheet and prepares the cost estimate and proposed timelines	<i>Consultant</i>
C	<i>Employer</i> approves the Task Specification Sheet with cost estimate and proposed timelines	<i>Employer</i>
D	<i>Employer</i> raises Purchase Order for the Task	<i>Employer</i>
E	Task Completed in accordance with internal quality assurance procedures	<i>Consultant</i>
F	Authorized person within <i>Consultant</i> organization approves deliverable	<i>Consultant</i>
G	<i>Consultant</i> submits the deliverable to the <i>Employer</i>	<i>Consultant</i>
H	<i>Employer</i> reviews the deliverable using the requirements set out in this document as the basis for the review	<i>Employer</i>
I	<i>Employer</i> forwards review comments to the <i>Consultant</i>	<i>Employer</i>
J	Review meeting is held to discuss the <i>Employer's</i> comments	<i>Employer and Consultant</i>
K	<i>Consultant</i> updates the deliverable as per review meeting	<i>Consultant</i>
L	Authorized person within <i>Consultant</i> organization approves the updated deliverable	<i>Consultant</i>
M	<i>Consultant</i> submits updated deliverable to the <i>Employer</i> for acceptance	<i>Consultant</i>
N	<i>Employer</i> accepts deliverable documents in writing, provided that comments have been incorporated as per agreement between the parties	<i>Employer</i>
O	An authorized person within <i>Consultant</i> organization approves the revised deliverables	<i>Consultant</i>
P	<i>Employer</i> accepts the deliverables	<i>Employer</i>
Q	<i>Employer</i> confirms acceptance of deliverables in writing	<i>Employer</i>

9. CONSTRAINTS ON HOW THE CONSULTANT PROVIDES THE SERVICES

- a) The *Consultant* and the *Employer* will review the Deliverables in meetings organized and scheduled by the *Employer*.
- b) The *Consultant* ensures that all follow-up actions are carried out within the time stipulated.
- c) The *Employer* may, in addition to the scheduled review meetings indicated, request additional reviews.
- d) The *Employer* may involve independent third parties in any of the review meetings.

9.1 Progress Meetings

The *Employer* and the *Consultant* hold regular meetings to review the progress made with respect to the Accepted Programme, to discuss early warnings, etc.

The *Consultant* agrees the frequency and venue of the progress meetings with the *Employer*.

The *Consultant* agrees a schedule for the progress meetings with the *Employer*.

The *Employer* keeps minutes of these meetings.

Note: The communication required by the contract is conducted in terms of the Conditions of the Contract.

Regular meetings of a general nature may be convened and chaired by the *Employer's Agent* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Overall contract progress and feedback to Steering Committee	Quarterly	Eskom Megawatt Park or other venue as advised	<i>Employer's Agent</i> and <i>Consultant</i> representatives and any other members as specified in terms of reference.
Overall task order progress and feedback to applicable business unit, to be managed within contractual and process limitations	Monthly	Eskom Megawatt Park or other venue as advised	Eskom Section representatives and <i>Consultant</i> representatives

Attendees shall have the necessary delegated authority to make decisions in respect of matters discussed at such meetings and this is to be managed within contractual and process limitations.

The Meetings of a specialist nature may be convened as specified elsewhere in this Scope or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *services*. Records of these meetings shall be submitted to the *Employer's Agent* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

9.2 Consultant's key persons

An organogram from the *Consultant* showing key persons and their lines of authority / communication shall be submitted to the *Employer* within 4 (four) weeks of the Contract Date. The *Consultant* shall be required to notify the *Employer* of the contact details, leave and alternative where applicable in respect of each key person. Any changes in this regard shall be notified in writing in advance or within 1 (one) week of occurring and measures taken to avoid negative impacts on the *Consultant's* ability to deliver the services.

10. DELIVERABLES

10.1 SCHEDULE OF DELIVERABLES

The *Employer* will develop a schedule of deliverables, based on the scope of services required at Task Order issue. The deliverables are reviewed and discussed during scheduled review sessions.

10.2 SCHEDULE OF REVIEW MEETINGS

Review meetings for all deliverables will be scheduled as and when required during course of the assignment.

11. RECEIVABLES

11.1 DOCUMENTS AND DRAWINGS

The *Employer* shall provide other documents as required per Task Order.

11.2 ADDITIONAL INFORMATION REQUIRED

The *Consultant* identifies any additional information required from the *Employer* and indicates it accordingly as part of the Programme.

11.3 CHANGES TO *EMPLOYER* FURNISHED INFORMATION

The *Consultant* does not alter the content of any *Employer* furnished information or data for design purposes without the written authorization of the *Employer*. Should the *Consultant* have any doubt about the design suitability or correctness of any *Employer* furnished information or data, or has proposals for changes, it advises the *Employer* accordingly at the earliest opportunity. The *Consultant* ensures that the design of Deliverables, using *Employer* furnished information or data, is in accordance with the specific requirements of such Deliverables.

12. INVOICING AND PAYMENT

The *Consultant* will invoice a month in arrears; however, the *Consultant* will send pro-forma invoices to the relevant TPD/Engineering representative three (3) working days before submitting final Tax invoices to Accounts Payable Services (APS) to allow Goods receipt (GR's) to be done timeously and avoid invoices being parked in the system.

The process can be amended as required from time to time per mutual agreement between both parties

The invoice should be accompanied by relevant supporting documents and calculations supporting the amount invoiced.

The *Consultant* shall address the tax invoice to Eskom Holdings SOC Limited and include on it the following information:

- Name and address of the *Consultant* and the *Employer*;
- The contract number and title;
- *Consultant's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- Date of the invoice
- Task Order number.
- Description of the services and quantities
- Period invoiced
- Name of the employee and project/site
- Purchase Order number

13. WORKING ON THE EMPLOYER'S PROPERTY**13.1 *Employer's* entry and security control, permits, and site regulations**

The *Consultant* shall comply with all the *Employer's* site entry requirements and obtain at his cost all the necessary permits.

13.2 People restrictions, hours of work, conduct and records

The *Consultant* keeps detailed records of his people working on the *Employer's* property, including those of his Sub-*Consultant*. The *Employer's Agent* shall have access to these records at any time.

13.3 *Employer's* purpose for the material

All rights to material belong to *Employer* for purposes stated in the Scope.

13.4 Restrictions on the *Consultant's* use of the material for other work

As per the Task Order.

13.5 Transfer of rights if Option X9 applies

The *Employer* owns the *Consultant's* rights over material prepared for this contract by the *Consultants*. The *Consultant* provides to the *Employer* the documents which transfer these rights to the *Employer*.

14. PROCUREMENT

14.1 SD&L Undertaking

Tenderers who complete and submit the undertaking as required, but who do not meet Eskom's targets, will not be disqualified. SD&L undertakings do not form part of scoring but commitments will form part of contractual obligations

Enterprise Development

The main *Consultant/Contractor* will be required to propose development in the following areas:

Support Description	Tenderer Proposal
Not applicable	

Job Opportunities

Tenderer to indicate number of Jobs to be created and/or retained from this contract:

Number of Jobs to be created	Number of Jobs to be retained

Skills Development

Tenderers are required to propose against the following training initiatives;

Category	Eskom Target	Tenderer Proposal
Trainee Engineers (Electrical/QS/Mechanical)	12	
Engineering Bursaries (Electrical/QS/Mechanical)	12	

The successful supplier shall develop/sponsor Engineers, over the duration of the contract which is three years. One skill shall be developed through sponsoring bursaries or internal training, for every five million Rands (R5 000 000.00) that will be spent by Eskom to the company, to achieve the maximum number of (24) twenty-four. Therefore, the supplier may develop the candidates directly or through their supplier network. The supplier may also utilize the services of the relevant SETA accredited training providers.

Other Initiatives**1. Local procurement spend**

Eskom Target	Tenderer Proposal
100%	

2. Subcontracting to designated groups

30% subcontracting to designated groups that are EME/QSE's with a BBBEE level 1 to 2 will apply. Tenderers to meet these criteria, shall submit, subcontracting agreement, CSD registration and Affidavits/BBBEE certificates of subcontractors.

3. Retention for SD&L Commitments

- a. Eskom shall be permitted to retain 2.5% (two and half percent) of the invoices (including VAT) as security for the fulfilment by the suppliers of their SD&L obligations.
- b. Once Eskom has verified that suppliers have fulfilled their SD & L obligations, the 2.5% retained shall be approved for reimbursement by Eskom to suppliers within 90 (ninety) days of verification by Eskom.

4. Monitoring and Reporting of SD&L Commitments

- a. Suppliers shall on a quarterly basis submit a report to Eskom in accordance with Data Collection Template on their compliance with the SD& L obligations described above.
- b. Eskom shall review the quarterly reports submitted by the suppliers within 60 (sixty) days of receipt of the reports and notify the suppliers in writing if their SD&L obligations have not been met.
- c. Upon notification by Eskom that the suppliers have not met their SD&L obligations, suppliers shall be required to implement corrective measures to meet those SD&L obligations before the commencement of the following quarter, failing which Retention clauses shall be invoked.

Every contract shall be accompanied by the SD&L implementation schedule which must be completed by the suppliers and returned to SD&L representative for acceptance **before** contract award. This will be used as a reference document for monitoring, measuring, and reporting on the supplier's progress in delivering on their stated SD&L commitments.

15. OTHER CONSTRAINTS

The following additional constraints regarding the task orders apply:

- The *Employer* has the right to instruct the *Consultant* to remove any employee due to non-performance. The *Employer* must provide reasons to the *Consultant* for his instruction to remove an employee. The *Consultant* is required to arrange that, after one day, the employee has been removed from site.
- For early termination of the task order (prior to the due date), a calendar month notice will be provided by the *Employer*.
- No notice from the *Employer* is required where the term of the task order is not changed.

15.1 Working on the *Employer's* property

15.1.1 The *Employer's* entry and security control, permits, and site regulations

The *Employer's* sites are classified as National Key Points and access is controlled and regulated by law. Sites such as Koeberg Nuclear Power Station have very strict entrance requirements and allowances for security clearance checks and processes of about two hours need to be made by *Consultants* requiring access at the sites. The taking of photographs is prohibited at all sites and special permission shall be required if necessary, for the provision of *Services*. Persons under the influence of intoxicating substances and alcohol are strictly not permitted to enter the *Employer's* premises. All persons entering or leaving the *Employer's* premises may be subjected to physical security checks including alcohol tests.

In addition to the above there may be other restrictions applicable on sites and *Consultants* shall always be required to comply. Temporary Access Permits may be arranged for a limited number of the *Consultant's* *Key Persons* who require frequent access to the *Employer's* premises for purposes of delivering the *Services* which may include the attendance of regular meetings.

15.1.2 People restrictions, hours of work, conduct and records

It is very important that the *Consultant* keeps records of his people working on the *Employer's* property, including those of his Sub-consultants. The *Employer's* Agent shall have access to these records at any time. These records may be needed when assessing compensation events. The restrictions on hours worked shall be specified on the Task Order.

16. THINGS PROVIDED BY THE *EMPLOYER*

The *Employer* shall provide special software and access to systems, training, and guidance on requirements specific to the *Employer* that are not common in the industry to enable the *Consultant* to deliver the services as required by the *Employer*. Addendum A: Tools and software requirements indicate tools and software to be provided by *Consultant*.

17. ADDENDUM A: TOOLS AND SOFTWARE REQUIREMENTS

Equipment, Tools and Software to be provided by the *Consultant* (included in rate) includes the items listed in table below.

The *Employer* takes note that standard licensing fees would apply if additional users of the *Consultant's* software are required.

This does not apply to design package task orders issued whereby the use of the software is included in the service to be provided by the *Consultant*. Further to this, the resources will be fully competent to operate software without further training being provided. Standard licensing fees to be invoiced on actual costs.

Business Area	Tools and software requirements	
Transmission Projects Delivery (TPD)	Provision of Personal Protective Equipment (PPE) in accordance with the relevant Eskom standards and OHS Act. Standard issue is limited to a hardhat, goggles, earplugs, reflector vest, safety boots; cost will be borne by the <i>Consultant</i> .	
	Site resources will have suitable vehicle for travelling on site Office resources will have suitable vehicle for travelling to site	
	Medical certificate (fit for work will be performed, entry and exit medical). Medical costs will be borne by <i>Consultant</i> .	
	Site supervisor	Tools to perform duties including, but not limited to: <ul style="list-style-type: none"> Aluminium Pilot Briefcase 5M Tape Digital Camera 3 x Memory Cards Rubber Mallet Binoculars 240/12V Charger with 4 rechargeable batteries Standard supply to all Site Supervisors, cost will be borne the <i>Consultant</i>.
	Site Manager	<ul style="list-style-type: none"> Aluminium Pilot Briefcase 5M Tape Digital Camera 3 x Memory Card Rubber Mallet Binoculars 240/12V Charger with 4 rechargeable batteries Vernier Measuring Wheel Laser Rangefinder Standard supply to all Site Supervisors, cost will be borne the <i>Consultant</i>.


	The Laser Rangefinder will be returned to the <i>Consultant</i> once Site Manager leaves site
	Provision of communication equipment including Laptop with data connection and data bundles, Microsoft Office software, cell phone with airtime
	Portable printer and stationery (for site personnel, if not provided in site office) This is for the printer only. Actual costs for printing will be claimed as a reimbursable
Business Area	Tools and software requirements
Substation Engineering	Provision of Personal Protective Equipment (PPE) in accordance with the relevant Eskom standards and OHS Act Standard issue is limited to a hardhat, goggles, earplugs, reflector vest, safety boots; cost will be borne by the <i>Consultant</i> .
	<ul style="list-style-type: none"> Resources must have suitable vehicle for travelling Medical certificate (fit for work will be performed, entry and exit medical). Medical costs will be borne by <i>Consultant</i>. Provision of communication equipment including data connection and data bundles, cell phone with airtime
	Each person must be provided with a high-specification computer (should the <i>Employer</i> not be able to issue) with compatible design software.
	For the substation design environment each laptop must be installed with the following cCAD software and design simulation packages.
	PLS Cadd.
	Bentley Micro-station
	Bentley Substation
	CDEGS (Grounding design tool): applicable to electrical design engineers only 1x single user Option 1.
	CDEGS (Grounding design tool): applicable to electrical design engineers only 1x single user Option 2 – AutogridPro.
	Microsoft Office software, included in laptop price
	The list is not exhaustive and may be reviewed from time to time as the need arises

	Tools and software requirements
PTM & C applications	<p>Provision of Personal Protective Equipment (PPE) in accordance with the relevant Eskom standards and OHS Act</p> <p>Standard issue is limited to a hardhat, goggles, earplugs, reflector vest, safety boots; cost will be borne by the <i>Consultant</i>.</p> <p>Resources will have suitable vehicle for travelling</p> <p>Medical certificate (fit for work will be performed, entry and exit medical). Medical costs will be borne by <i>Consultant</i>.</p> <p>Provision of communication equipment including Laptop with data connection and data bundles, Microsoft Office software, cell phone with airtime.</p>
Business Area	Tools and software requirements
Line Engineering Services (LES)	<p>Provision of Personal Protective Equipment (PPE) in accordance with the relevant Eskom standards and OHS Act</p> <p>Standard issue is limited to a hardhat, goggles, earplugs, reflector vest, safety boots, cost will be borne by The <i>Consultant</i>.</p> <p>Resources will have suitable vehicle for travelling</p> <p>Medical certificate (fit for work will be performed, entry and exit medical). Medical costs will be borne by <i>Consultant</i>.</p> <p>Provision of communication equipment including data connection and data bundles, cell phone with airtime, Teams connection onsite to be able to do urgent virtual site access for office-based designers.</p> <p>Each person must be provided with a high-specification computer (should the <i>Employer</i> not be able to issue) with applicable design software.</p> <p>Each person must be provided with a high-specification computer (should the <i>Employer</i> not be able to issue) with compatible design software.</p> <p>For the each laptop must be installed with the following software simulation packages.</p> <ul style="list-style-type: none"> • Microsoft Office software • PLS CADD with licence • Cdegs • MicroStation <p>Tools to perform duties including, but not limited to:</p> <ul style="list-style-type: none"> • Metal case toolbox with lock combination (to fit all items mentioned above) • Binoculars • Rechargeable batteries plus charging adapter for batteries and car charger • Magnifying glass • Rubber mallet/hammer • Measuring tape 20m

	<ul style="list-style-type: none"> • Camera (minimum 16 megapixels) • Flashlight with extra set of Batteries • Handheld Laser Distance Measuring Tool for measuring distance <p>Items to be returned to the <i>Consultant</i> once the assignment is complete.</p>
	Tools and software requirements
PDE Integration	<p>Provision of Personal Protective Equipment (PPE) in accordance with the relevant Eskom standards and OHS Act</p> <p>Standard issue is limited to a hardhat, goggles, earplugs, reflector vest, safety boots, cost will be borne by the <i>Consultant</i>.</p> <p>Resources will have suitable vehicle for travelling</p> <p>Medical certificate (fit for work will be performed, entry and exit medical). Medical costs will be borne by the <i>Consultant</i>.</p> <p>Provision of communication equipment including Laptop with data connection and data bundles, Microsoft Office software, cell phone with airtime.</p>
	High-specification computer where noted
	<p>Laptop with serial port - Toshiba Tecra W50 (or similar)</p> <ul style="list-style-type: none"> • Processor type Intel® Quad Core i7-4810MQ Processor (Clock • Speed: 2.8 GHz to 3.8 Turbo GHz, Cache - 6 MB) • Motherboard Designed & Manufactured by Toshiba • Chipset Intel QM87 • Display size and Type "15.6 FHD Wide View • Anti-Flare, 300 (NIT)" • Graphic subsystem "2Gb Nvidia Quadro K2100M • Intel HD Graphics 4600" • Internal drives 2 Drives • Hard disk drive speed "SATA 1TB -Hybrid 8G • (with HDD Protection by 3D sensor)" • Optical drives 9.5mm 8x DVD-SuperMulti • Standard memoryDDR3L 1600 2 X 4GB • Memory slots 4 Memory Slots • Maximum memory DDR3L 1600 32GB • Wireless Communication Intel 802.11ac + a/g/n, 1Gbps LAN + AMT9.5, • Bluetooth® 4.0 • Wired communication 1Gbps LAN + AMT9.0 • Expansion slots Express card • Bridge Media Slot • Interfaces Serial Port • USB 3.0 x 2 • USB 2.0 x 3 • RGB x 1 • Display port x 1 • RJ45 x 1 • eSata x 1 • Memory Card Reader • 1 x Mic / Headphone Combo

	<ul style="list-style-type: none">• Audio Built-in Stereo Speakers• Keyboard Spill Resistant, Tile Matt Black• Backlit• Pointing device Dual Point (Accupoint + Click Pad)• Biometrics Trusted Platform Module (TPM), 3D Sensor, Finger• Print Reader• Lock Kensington type Lock• Bag Targus bag Included• Mouse Included• Anti-theft protection Computrace Support• Power features LI 6 Cell - 66 Wh (Battery)• Power requirements 180W 19V• Laptop Bag Targus• Installed Operating System Win7 DG 64Bit + Win8.1 Pro 64Bit
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18. ADDENDUM B: TASK ORDER TEMPLATE

	Task Order Template	Template Identifier	240-147869146	Rev	1
		Document Identifier	N/A	Rev	N/A
		Effective Date	01 January 2018		
		Review Date	July 2022		

TASK ORDER NO.: xxxxxxxxxxxxxxxx

Sequence?

TITLE OF THE CONTRACT: PROVISION OF ENGINEERING AND PROJECT MANAGEMENT SERVICES - CONTRACT NUMBER xxxxxxxxxxxxxx

CONSULTANT: xxxxxxxxxxxxxxxxxxxxxxxx		EMPLOYER: Eskom Holdings SOC Limited	
Contact Person: Mr xxxxxxxxxxxxxxxxxxxxxx <i>Consultant Representative</i>		Contact Person: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	
Address: Xxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxx Telephone No.: +27 xxxxxxxxxxxx Fax No: +27 xxxxxxxxxxxx		Address: 1 Maxwell Drive Megawatt Park, Block B, 3 rd Floor SUNNINGHILL, SANDTON Telephone No.: +27 11 516 7479 Email.: +27 86 662 3119	
THE TASK IS:	xx		
Please carry out the Task in accordance with the above referenced contract which includes the data stated in this Task Order.			
Task Start Date is: one day after last signatory		Task End Date is: put a date	

[illegible]

1. Background**2. SCOPE OF WORK****3. DELIVERABLES****4. ACCESS (25.2)**

The *Employer* will provide access to the relevant Eskom Sites and Offices.

5. PROGRAMME (31.1 and 32.2)

The *Consultant* shall provide a first programme for acceptance within one week of the start date.

6. QUALITY (40.2)

The *Consultant* will provide a Quality Policy Statement and a Quality Plan within 2 weeks of Task Order signing.

7. DELAY DAMAGES (X7.1 and Z11)

Not Applicable.

8. TRANSFER OF RIGHTS (X9)

Reference to “As per Task Order” not Applicable.

9. KEY PERFORMANCE INDICATORS (X20)

KPI's for this task order will be discussed and implemented as per required deliverables.

10. COST ESTIMATE – to confirm if we need to add VAT or exclude VAT

*Expenses are claimed as per cost incurred and accompanied by the supporting documents.

*Hours worked are subjected to the completion of time sheets, signed off by the *Consultant* Project Resource(s), Employer's Project Manager and *Consultant's* Representative.

*No overtime, Weekend's, or Public Holidays rate, only Task Order rate is applicable.

*Annual leave and sick leave days are not claimable.

*The cost table reflects the estimated hours, capped at a maximum allowed claimable from the *Employer* within the Task Order duration.

* The *Consultant* will be paid based on actual hours worked and outcomes delivered.

* The *Consultant* proceeds to deploy the resources as proposed during the RFP process. Should any of them not be available at the start date, such resources be replaced with resources of equal standing.

* The resources CV forms part of this Task Order.

11. SUPPLIER DEVELOPMENT AND LOCALISATION (SD&L)

Successful supplier will be obligated to train 1 candidate for every R3.5 million accumulated through task order awarded to the supplier; this obligation will be for the duration of the contract. The duration of the task order will not be linked with the supplier's obligation to train; therefore, the supplier will have to ensure that the skills committed are successfully achieved by the end of the contract period. Skills candidates shall be sourced from South Africa. The purpose is to provide these candidates with skills and workplace experience to increase the opportunity for them to be employable within the industry. The supplier may develop the candidates directly, through their supply network or through the SETA accredited training providers.

12. TRANSFER OF SKILLS

The *Consultant*, within the Task Order execution period or part thereof, may be required from time to time and depending on the nature of the Task to actively train candidate learners. The skills transfer process may take place in the *Consultant's* offices, the *Employer's* office or on site, as agreed with the *Employer*. During this period, the candidate will remain in the employ of the *Employer* or as otherwise agreed. The *Consultant* has the right to refuse a candidate in the event that the identified candidate is not qualified, committed, or for any other legitimate reason. The training programme will be put in place by the *Employer*. The cost of the training shall be borne by the *Employer*.

Signatures		
Requesting Manager:	<div>.....</div> <div>SIGNATURE</div>	<div>.....</div> <div>DATE</div>
Supported by: Senior Manager:	<div>.....</div> <div>SIGNATURE</div>	<div>.....</div> <div>DATE</div>
General Manager:	<div>.....</div> <div>SIGNATURE</div>	<div>.....</div> <div>DATE</div>
Contractual Compliance Review:	<div>.....</div> <div>SIGNATURE</div>	<div>.....</div> <div>DATE</div>
Accepted by the <i>Consultant</i>:	<div>.....</div> <div>SIGNATURE</div>	<div>.....</div> <div>DATE</div>
<i>Employer's Agent:</i>	<div>.....</div> <div>SIGNATURE</div>	<div>.....</div> <div>DATE</div>

19. ADDENDUM C: TRAVEL AND SUBSISTENCE EXPENSES, RATES, TOOLS AND SOFTWARE

19.1 Travel and Subsistence Expenses:

- All travel not stated on the Task Order will need to be pre-approved by the Requesting Manager.
- Travel and Subsistence expenses are subject to Eskom Standard Travel and Subsistence guidelines. Revised rates will be sent to the *Consultant* as and when revised.
- All claims must be accompanied by detailed supporting documents and must be claimed within one calendar months of incurrence.

Office-based Consultants:

All values shown are inclusive of VAT

KM's:	<ul style="list-style-type: none"> • Only business-related KM's will be reimbursed at the KM rate. • Home- work home is not reimbursable. • The traveller must attach the kilometre calculation to the expenditure claim to verify that the kilometres claimed are reasonable. The traveller should attach proof of reputable map (e.g. Google Maps) confirming the distances between the two locations. • Parking and tollgate costs incurred while on official business trip are reimbursable. • The traveller has to supply the proof of expenses on original receipts when submitting a claim.
KM rate:	<ul style="list-style-type: none"> • Business km rate • Proof of toll fees paid to be submitted. • Rates are inclusive of maintenance costs.
Accommodation for business travel	<ul style="list-style-type: none"> • Limited to R1400 inclusive of VAT and Tourism Levy per night with bed, dinner and breakfast including 2 soft drinks at dinner, parking and Wi-Fi if available. Maximum 3-star rating. • Where dinner and/or breakfast is not taken/provided, the domestic accommodation and subsistence expenditure, inclusive of VAT and Tourism Levy, will be in accordance with the maximum allowable rates of Room only at R1100/night and Bed and Breakfast R1200/night. • Where a higher star grading accommodation is used at the rate equivalent to or lower than for a lower star grading as prescribed in the directive above, an audit trail to be kept and attached to the travel claim. • Overnight accommodation for <i>Consultant</i> is limited to instances where the distance travelled by road (by the <i>Consultant</i>) exceeds 500km to and from the destination (return journey). Manager's discretion required when safety is impacted by this requirement. • Claims for meals are prohibited if the hotel/other accommodation rate already include meals (i.e. breakfast, lunch, dinner). This implies that if the hotel offers breakfast and dinner rate, the <i>Consultant</i> can only claim a meal for lunch. Otherwise booking room only and claim 3 meals. The claim for meals will be in line with Eskom Conditions of Service. • All additional expenses such as private phone calls, newspapers, alcohol drinks, toiletries, movies, tips for porters etc. shall be for the Travellers' own account and must be settled by the Traveller at the time of departure. • The Traveller should inform the establishment if she/he expects to be arriving later than expected arrival time to ensure that the reservation is

	<p>not cancelled, or a cancellation fee is charged.</p> <ul style="list-style-type: none"> If the Traveller does not check-in at all without any prior notification to the establishment, a no-show fee will be charge and is regarded as fruitless and wasteful expenditure. The Traveller will be responsible for any fruitless and wasteful expenditure incurred due to no-show or late cancellation where it was his/her ability to cancel the booking on time.
Car rentals	<ul style="list-style-type: none"> Car rental limited to Economy 4-5 door manual with air-conditioning. Employees are required to make use of cost-effective travel arrangements. The minimum safety requirements for any rental vehicle will include power steering, airbags and Anti-lock Braking System (ABS). Vehicle must also feature air-conditions. The Employees should book a rental vehicle for the period that is required for official business. A different class of vehicle (Intermediate or Standard Utility Vehicle) may be rented if required for a particular terrain. Mountainous and gravel roads are considered difficult terrain and vehicles with higher ground clearance may be required. The vehicle type e.g. 4x4 and the reason for requesting it must be clearly specified in the travel request under additional comments before approval of the travel request. The travel request must be pre-approved.
Flights	<ul style="list-style-type: none"> Flights limited to economy class. Air travel booking for domestic travel should be approved at least seven (7) working days before departure. Implement the best-fare-of-the-day (including low cost carriers). If exceptional circumstances necessitate a change to a booking and it has a cost implication, it must be authorized by a Senior Manager of the Requesting Manager. These changes should be kept to a minimum as they result in fruitless and wasteful expenditure. Travellers should limit the number of changes to air tickets. The cost incurred because of changes requested by a Traveller for his/her convenience or lack of discipline will be for the Traveller's personal account. The cost for changes because of changed business requirements or any circumstances outside the Travellers control will be carried by Eskom Holdings SOC Limited.
Cost of meals	<ul style="list-style-type: none"> Travelling on Eskom business: Maximum amount of R158.50 (VAT included) per meal. Meals included in accommodation rates will be excluded from the allowance e.g. breakfast cannot be claimed if the accommodation rate includes breakfast. <p>Breakfast</p> <ul style="list-style-type: none"> No breakfast may be claimed if the accommodation rate includes breakfast. <p>Lunch</p> <ul style="list-style-type: none"> No lunch may be claimed if the accommodation rate includes lunch. <p>Dinner</p> <ul style="list-style-type: none"> No dinner may be claimed if the accommodation rate includes dinner.

	<p>Other</p> <ul style="list-style-type: none"> • Tips for meals are for the traveller's own account. • Receipts for meals should be kept and attached to the claim form. • In cases where receipts are lost, the traveller should submit an affidavit. • The claim can only be processed once approval has been obtained from the Authorising Official / Senior Manager of the Requesting Manager. • Travellers will not be reimbursed for any consumable items taken from mini bars in a hotel. • Where absence from the place where the <i>Consultant</i> is on the establishment is a normal feature of the <i>Consultant's</i> duties, the <i>Consultant</i> is not entitled to reimbursement for the cost of meals.
Travel bookings	<ul style="list-style-type: none"> • To be made and paid for by <i>Consultant</i>. This must then be claimed back once a month together with all other Travel & Subsistence expenses on a VAT invoice and include all the relevant documentation. • Travel shall be conducted at the safest way possible. • Travellers must ensure that their travel arrangements are cancelled should they no longer require the trip. <p>On approving travel requests every manager should consider:</p> <ol style="list-style-type: none"> a) The necessity to travel b) The benefit to the institution <p>The most cost-effective option</p>
International travel and subsistence	<ul style="list-style-type: none"> • To be allowed for in accordance with the <i>Employer's</i> international travel and subsistence guidelines.
Other	<p>Services must include and is provided for in the hourly rates:</p> <ul style="list-style-type: none"> • Provision of Personal Protective Equipment (PPE) in accordance with the relevant Eskom standards and OHS Act. Standard issue is limited to a hardhat, goggles, earplugs, reflector vest, safety boots, and cost borne by the <i>Consultant</i>. Any additional items will be for the cost of the <i>Consultant</i>. <p>Tools to perform duties including:</p> <ul style="list-style-type: none"> • Provision of communication equipment including Laptop with data connection and data bundles, Microsoft Office software, cell phone with airtime, Portable printer and stationery. • Medical certificate (fit for work to be performed, entry and exit medical).

Site-based Consultants: All values shown are inclusive of VAT

KM's:	<ul style="list-style-type: none"> • Only business-related KM's will be reimbursed at the KM rate. • Home-work home is not reimbursable (including travelling time and km's from site accommodation to site camp, site accommodation location to be noted on task order).
KM rate:	<ul style="list-style-type: none"> • Business km rate. • Proof of toll fees paid to be submitted. • Rates must be inclusive of maintenance costs
Vehicle	<ul style="list-style-type: none"> • Site based <i>Consultants</i> will be required to have a site suitable vehicle and provision for this to be included in the Fixed Daily Allowance. Not all resources will be required to conduct advanced 4X4 training - only resources identified for this requirement must be trained.

Accommodation	<ul style="list-style-type: none"> The provision of accommodation allowance is covered in the fixed daily allowance for site-based <i>Consultants</i>.
Flights	<ul style="list-style-type: none"> Flights limited to economy class. Air travel booking for domestic travel should be approved at least seven (7) working days before departure. Implement the best-fare-of-the-day (including low cost carriers). If exceptional circumstances necessitate a change to a booking and it has a cost implication, it must be authorized by a Senior Manager of the Requesting Manager. These changes should be kept to a minimum as they result in fruitless and wasteful expenditure. Travellers should limit the number of changes to air tickets. The cost incurred because of changes requested by a Traveller for his/her convenience or lack of discipline will be for the Traveller's personal account. The cost for changes because of changed business requirements or any circumstances outside the Travellers control will be carried by Eskom Holdings SOC Limited.
Cost of meals	<ul style="list-style-type: none"> Where absence from the place where the <i>Consultant</i> is on the establishment is a normal feature of the <i>Consultant's</i> duties, the <i>Consultant</i> is not entitled to reimbursement for the cost of meals. The provision of food allowance to be covered in the fixed daily allowance for site-based <i>Consultants</i>.
Travel bookings	<ul style="list-style-type: none"> To be made and paid for by <i>Consultant</i>. This must then be claimed back once a month together with all other Travel & Subsistence expenses on a VAT invoice and include all the relevant documentation. Travel shall be conducted at the safest way possible. Travellers must ensure that their travel arrangements are cancelled should they no longer require the trip. <p>On approving travel requests every manager should consider:</p> <ol style="list-style-type: none"> The necessity to travel The benefit to the institution The most cost-effective option
Other	<p>Services must include and is provided for in the hourly rates:</p> <ul style="list-style-type: none"> Provision of Personal Protective Equipment (PPE) in accordance with the relevant Eskom standards and OHS Act. Standard issue is limited to a hardhat, goggles, earplugs, reflector vest, safety boots, and cost borne by the <i>Consultant</i>. Any additional items will be for the cost of the <i>Consultant</i>. <p>Tools to perform duties including:</p> <ul style="list-style-type: none"> Site Supervisor: Aluminium Pilot Briefcase, 5M Tape, Digital Camera, 3 x Memory Cards, Rubber Mallet, Binoculars, 240/12V Charger with 4 rechargeable batteries. Site Manager: Aluminium Pilot Briefcase, 5M Tape, Digital Camera, 3 x Memory Cards, Rubber Mallet, Binoculars, 240/12V Charger with 4 rechargeable batteries, Vernier, Measuring Wheel, Laser Rangefinder. Provision of communication equipment including Laptop with data connection and data bundles, Microsoft Office software, cell phone with airtime, Portable printer, and stationery (for site-based <i>Consultants</i> if not provided in site office). Medical certificate (fit for work to be performed, entry and exit medical). <p>If site-based <i>Consultants</i> are temporarily moved to another site for a short duration, office-based rates for accommodation/travel/food etc. will apply.</p>

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|--|---|
| | <ul style="list-style-type: none">• To be pre-approved by the Requesting Manager. |
|--|---|

19.2 Rates: Refer to the Bill of Quantities

Overtime is to be pre-approved and paid at the normal hourly rate.

Note: Full fixed daily subsistence allowance is not applicable should the employee already be local to site (i.e. primary residence and the site camp is in same vicinity).

Training as part of the *Consultant's* succession plans are for the *Consultant's* account.

The applicable sites and allowance will be discussed and agreed with the *Employer's Agent*.

20. ADDENDUM D: INVOICING

Eskom e-invoicing procedure to be followed:



Date: **17 October 2014**

Enquiries: **FSS Contact Centre**
Tel: **011 800 5060**

Dear Vendor

SENDING INVOICES ELECTRONICALLY

In an endeavor to reduce the time it takes to pay suppliers, Eskom is enhancing its processes to move the submission of invoices from manual to electronic submission via email.

This letter is aimed to empower you to start with the configuration of your system so that you can submit invoices electronically from go-live date on 16 November 2014 and also to provide you with time to raise your queries that we might not have thought of.

Invoices can be submitted using the emails below from the 16 November 2014. Ensure you pick the right email address as there are different emails addresses.

Between now and the 16 November 2014 you may continue to submit your invoices manually, or via email provided the invoices are submitted in original PDF format and comply with tax requirements to mwp@eskom.co.za. Further information is detailed hereunder.

Details on how to submit invoices and additional information:

- Ensure that the Eskom purchase order number is clearly indicated on your invoice together with the line number on the order you are billing for.
- All Electronic invoices must be sent in PDF format only.
- Each PDF file should contain one invoice; or one debit note; or one credit note only as Eskom's SAP system does not support more than one PDF being linked into workflow at a time.
- **Only one PDF file per email.**
- Before 16 November 2014, send all invoices in original PDF format via e-mail to Eskom email address mwp@eskom.co.za
- With effect from 16 November 2014, send all invoices in PDF straight from your system to an Eskom email address (see email addresses below)

Shared Services
Finance
3 Simba Road, Sunninghill
Tel +27 11 800 8111 www.eskom.co.za
Eskom Holdings SOC Limited Reg No 2002/015527/06

1923-2013

21. DEVELOPMENT TEAM

#	Members' Full Names	Members' Designation
1.	Annerie Van Velden	Middle Manager – PMO Portfolio
2.	Simbo Norhobani	Contract Manager – PMO Portfolio
3.	Sandra Zwane	Project Manager - Northern Portfolio
4.	Seelane Motsomi	Senior Advisor - Quantity Survey

22. THE DOCUMENT WAS SEEN AND ACCEPTED BY:

#	Members' Full Names	Members' Designation
1.	Bongani Mabena	Manager - Health & Safety Risk Management
2.	Craig Potgieter	Middle Manager – PMO Portfolio
3.	Elli Lechtman	Senior Manager (Acting) – Engineering Integration
4.	Emile Van Wyk	Manager - TPD Human Resources
5.	Faith Mokhonoana	Senior Manager (Acting) – Line Engineering Services
6.	Frans Poee	Middle Manager - Procurement
7.	Geoffrey Small	Middle Manager - SHEQ
8.	Itumeleng Moeng	Middle Manager - Programme
9.	Johannes Sibanyoni	Senior Advisor - Health & Safety Risk Management
10.	Letlotlo Tau	Senior Advisor - Quality Assurance
11.	Makgwanja Malinga	Senior Manager - PMO Portfolio
12.	Martin Sabelo	Senior Advisor – SDL&I
13.	Mercy Motloung	Secretary – TPD Engineering
14.	Narisha Beukes	Senior Engineer - Electrical
15.	Nelson Luthuli	Senior Manager - PTMC
16.	Nkibi Nkwana	Middle Manager – Western Portfolio
17.	Nolitha Lekalake	Senior Advisor - Quantity Survey
18.	Rondell Van Wyk	Senior Advisor – PMO Portfolio
19.	Sabata Behle	Project Manager - Western Portfolio
20.	Shumani Mamphodo	Manager – Project Accounting
21.	Sibongile Masemola	Contract Manager – Northern Portfolio
22.	Siyanda Radebe	Manager – PMO Portfolio
23.	Sunny Ravu	Chief Advisor – PMO Portfolio
24.	Tebogo Nyatlo	Project Manager - Western Portfolio
25.	Tshinanne Mutshatshi	Senior Advisor - Environmental
26.	Vafa Roohani	Middle Manager – PMO Portfolio
27.	Vusi Mthimunya	Middle Manager – OHS Inspectorate
28.	Subhas Maharaj	Senior Manager- Substation Engineering
29.	Vusi Mthimunya	Middle Manager – OHS Inspectorate
30.	Subhas Maharaj	Senior Manager- Substation Engineering